NIAGARA

PRESSES, PUNCHES,
SQUARING SHEARS
ROTARY SHEARS

TINNERS TOOLS AND
MACHINES FOR
PLATE AND SHEET
METAL WORK

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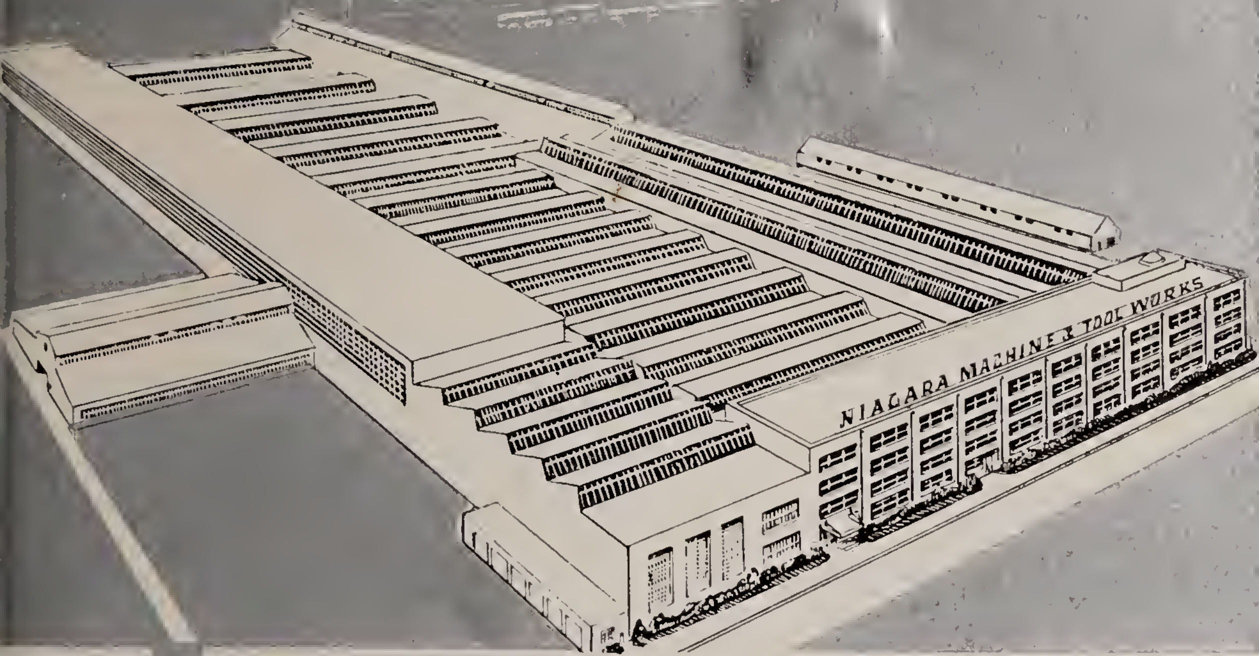

NIAGARA

In buildings, equipment and personnel, this large Niagara plant is dedicated to the purpose of building machines and tinners tools for Shearing, Blanking, Drawing and Forming of plate and sheet metal.

Booklet No. 106-B
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NIAGARA MACHINE & TOOL WORKS

FACTORY, BUFFALO, N. Y., U.S.A.

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Electric Machinery
Electric Switchboards
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Metal Products
Metal Signs
Metal Stampings
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Silos
Soda Fountains
Stampings
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Trunk Manufacturers
Typewriters
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Ventilators
Washing Machines
Watches
Water Coolers
Weather Strips
Window Frames
Many Other Similar Products

Equipment used in the Manufacture of the above products

NIAGARA PRESSES . . . SQUARING SHEARS

PUNCHES . . . ROTARY SHEARS . . . TINNERS TOOLS

MACHINES FOR PLATE AND SHEET METAL WORK

THE MOST PRODUCTIVE AND ECONOMICAL MACHINES FOR METAL FABRICATING

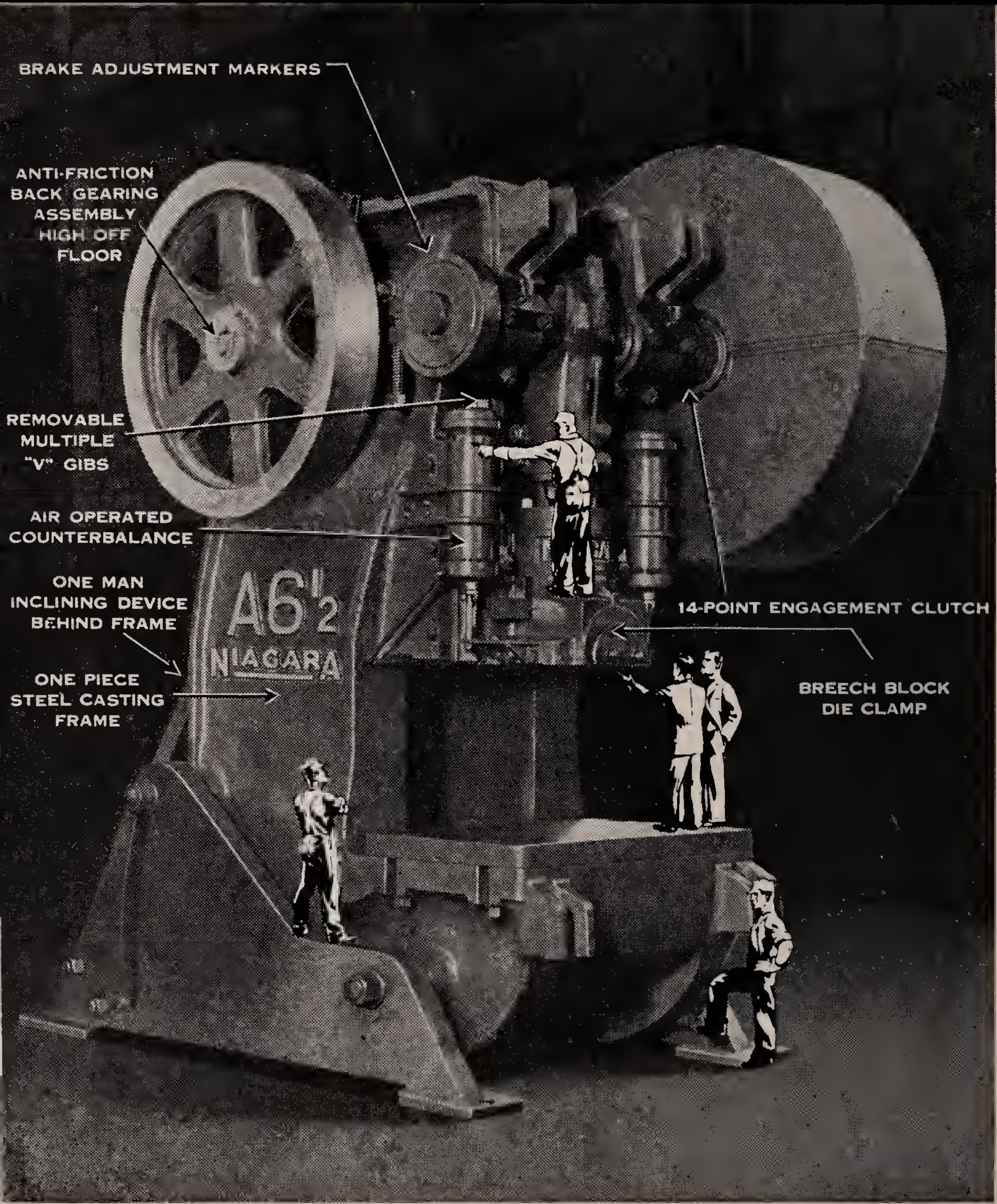
This booklet gives a condensed presentation of the complete line of Niagara presses, shears and machines for plate and sheet metal work. Description and specifications are given in bulletins listed on page 68.

A COMPLETE LINE

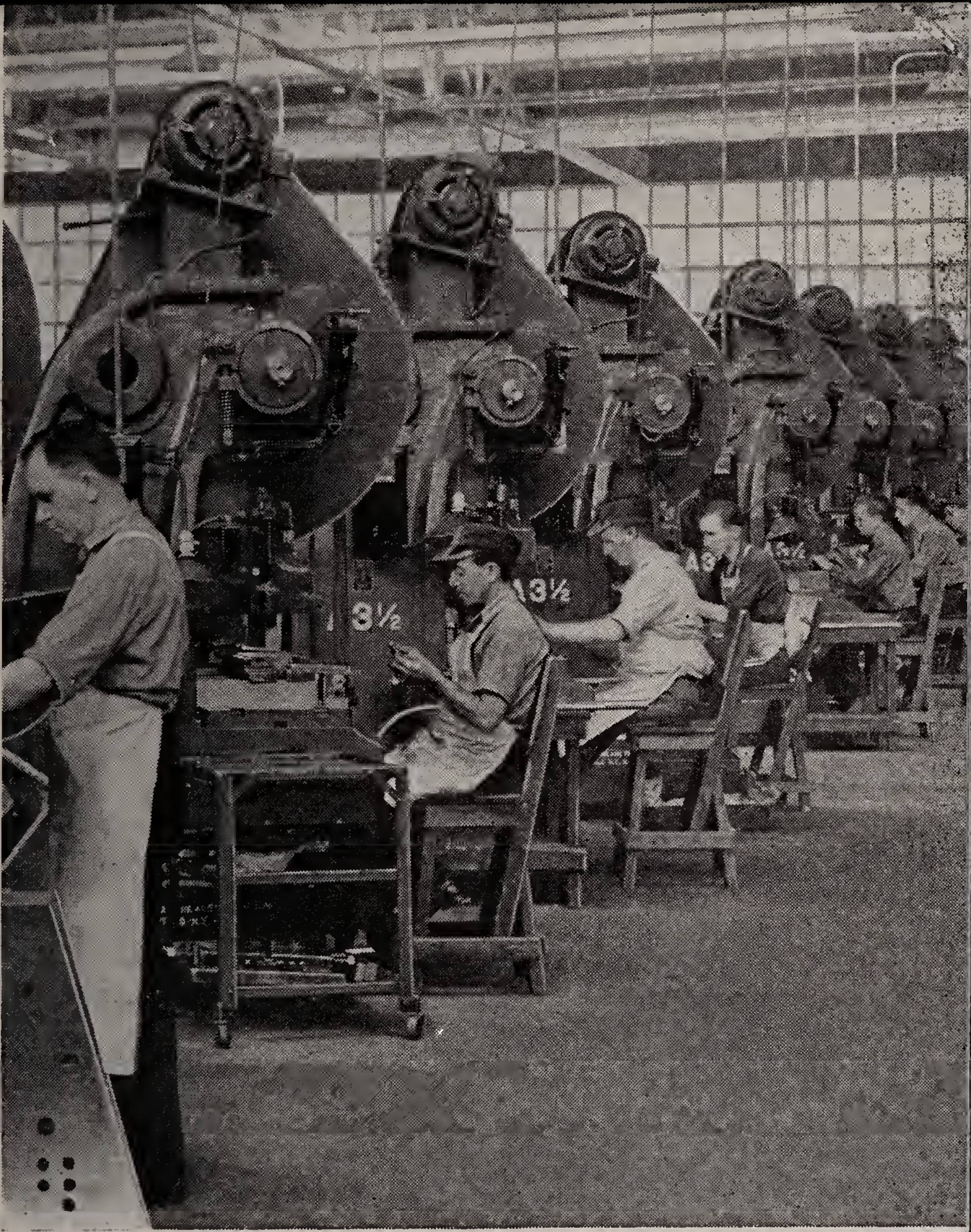
The wide range of sizes, capacities and types provides the most productive and economical machine for your sheet metal stamping, forming and shearing requirements.

ENGINEERING SERVICE

The experience of Niagara engineers is available for assistance in selecting the most economical size and type for your requirements. Write, giving description and sketch or sample of your product. We will be glad to work with you.

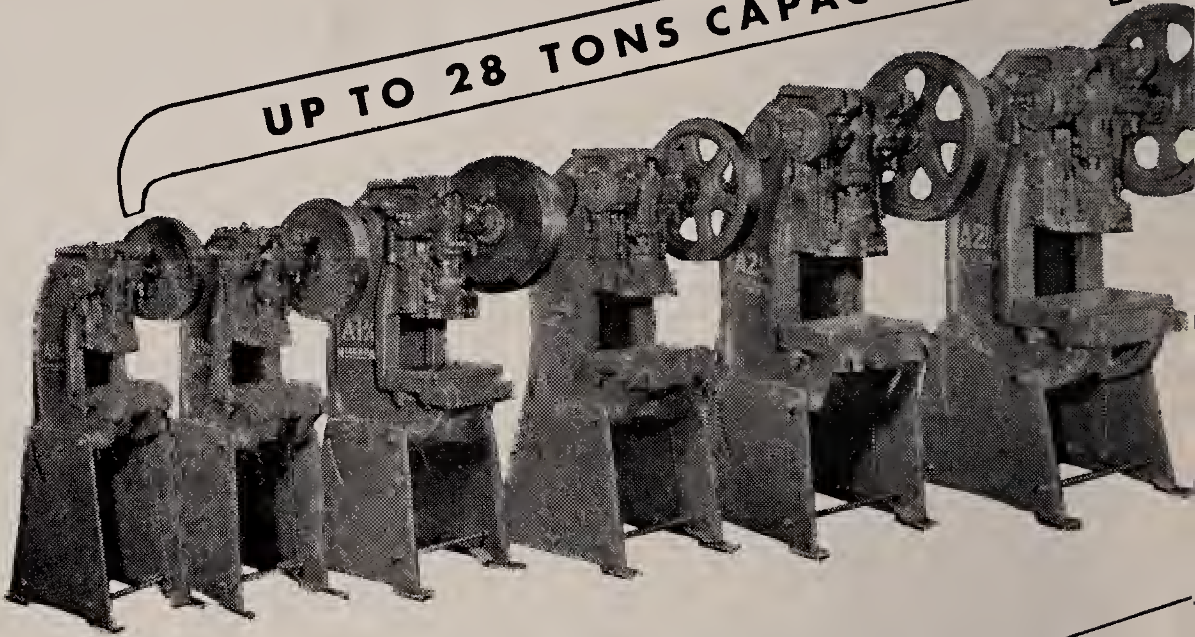

BRAKE ADJUSTMENT MARKERS
ANTI-FRICTION BACK GEARING ASSEMBLY HIGH OFF FLOOR
REMOVABLE MULTIPLE "V" GIBS
AIR OPERATED COUNTERBALANCE
ONE MAN INCLINING DEVICE BEHIND FRAME
ONE PIECE STEEL CASTING FRAME
14-POINT ENGAGEMENT CLUTCH
BREECH BLOCK DIE CLAMP
A6½
NIAGARA

Look over the engineering features of Niagara Series "A" Open Back Inclinable Presses and you will see that they are important for what they do as well as what they are.

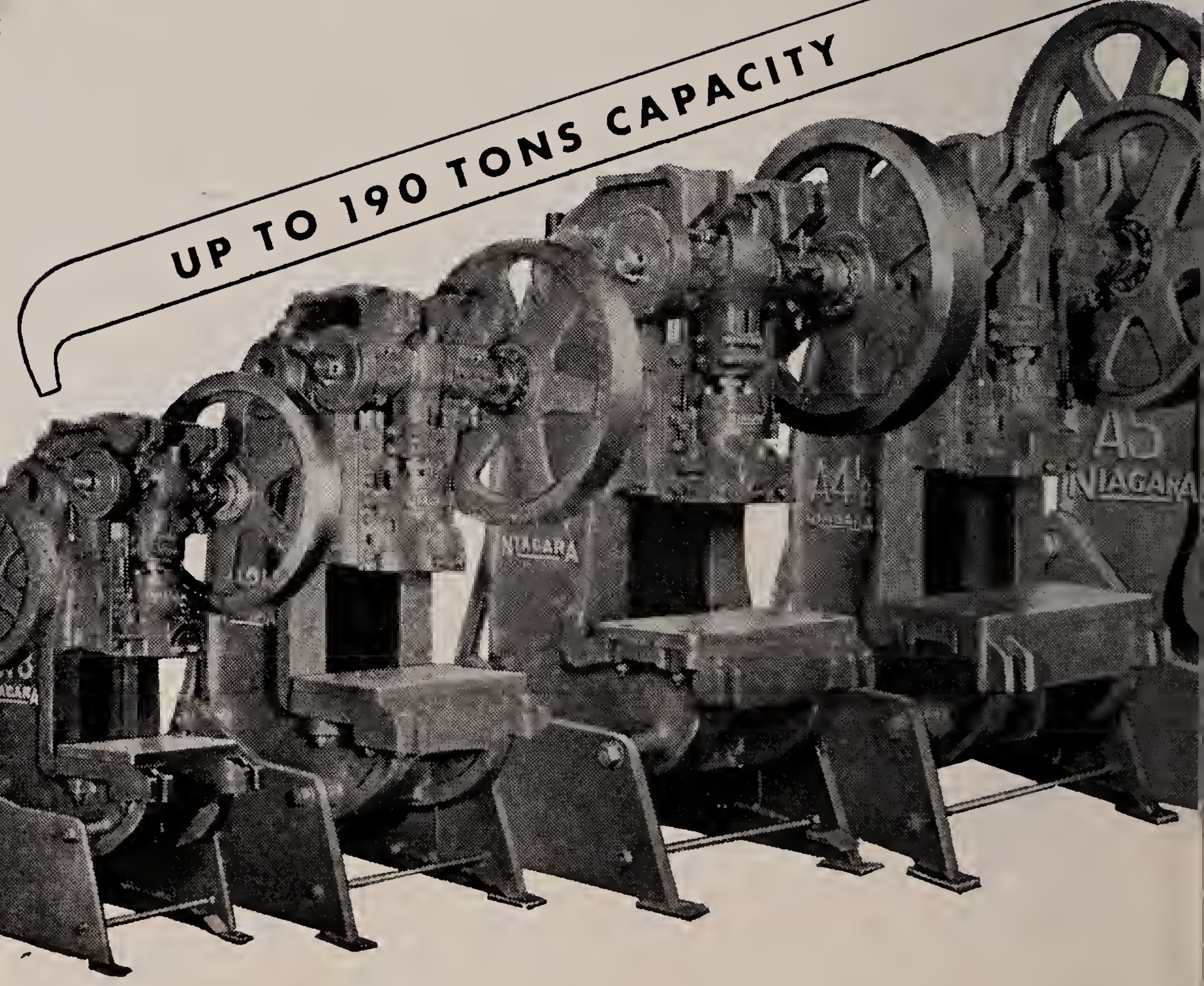


Showing typical production line-up of Niagara Open Back Inclinable Presses in a large factory where manufacturing equipment is as modern as the products they build.

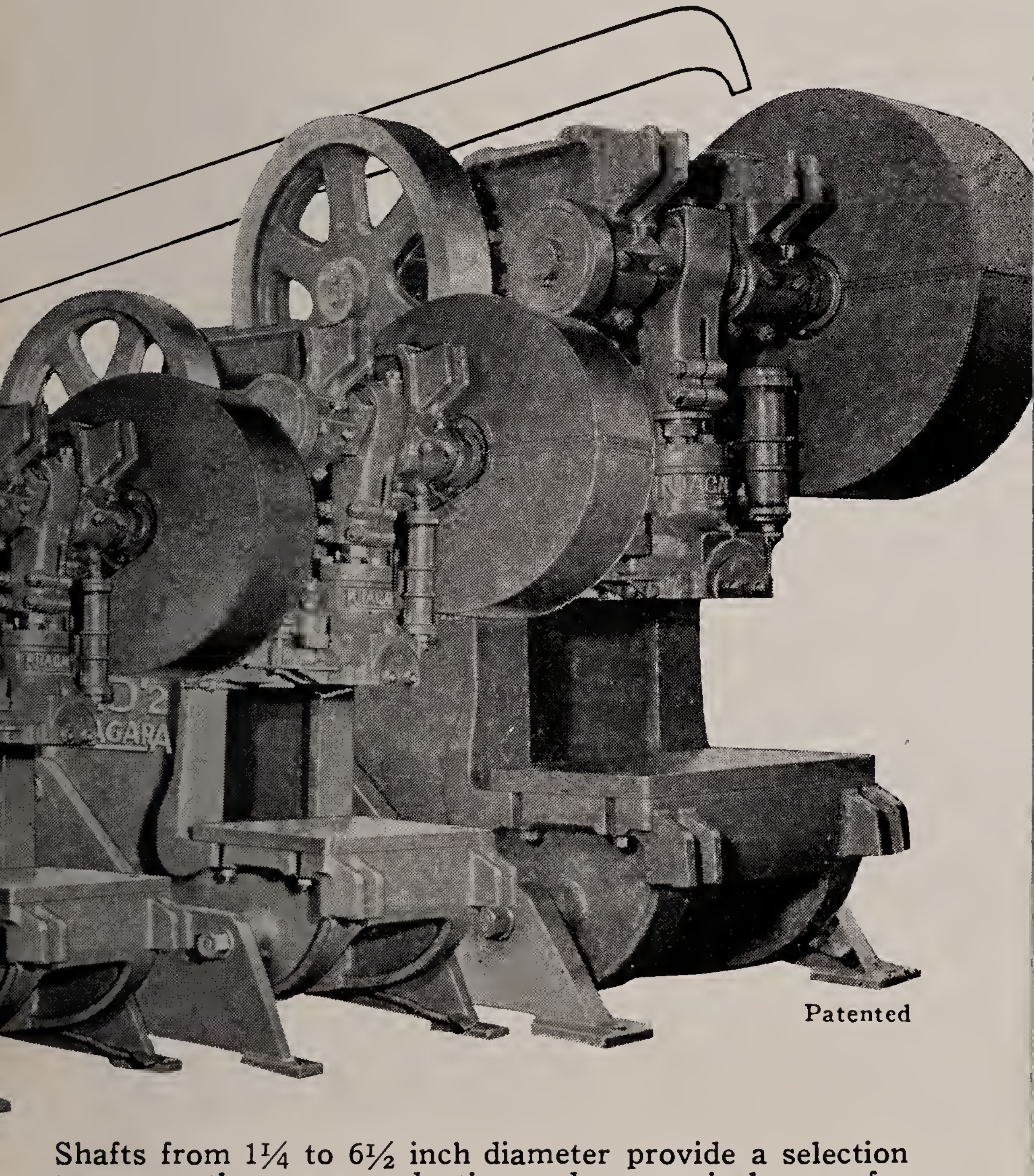
UP TO 28 TONS CAPACITY



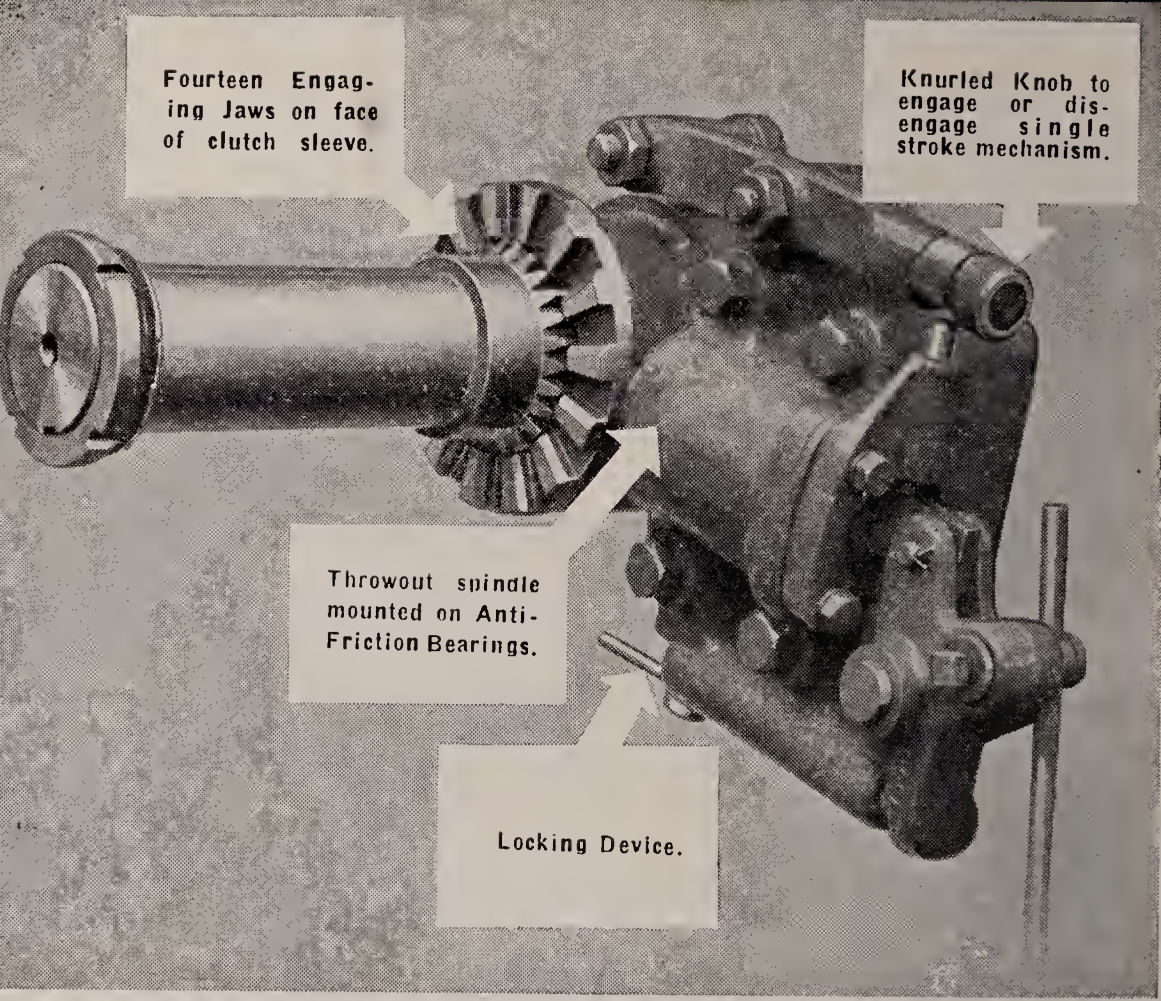
UP TO 190 TONS CAPACITY



NIAGARA MASTER "A" SERIES INCLINABLE PRESSES



Shafts from 1¼ to 6½ inch diameter provide a selection to assure the most productive and economical press for every job.

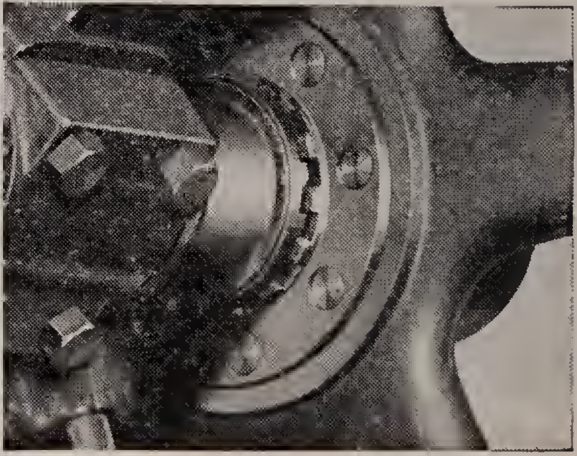

Fourteen Engaging Jaws on face of clutch sleeve.
Knurled Knob to engage or disengage single stroke mechanism.
Throwout spindle mounted on Anti-Friction Bearings.
Locking Device.

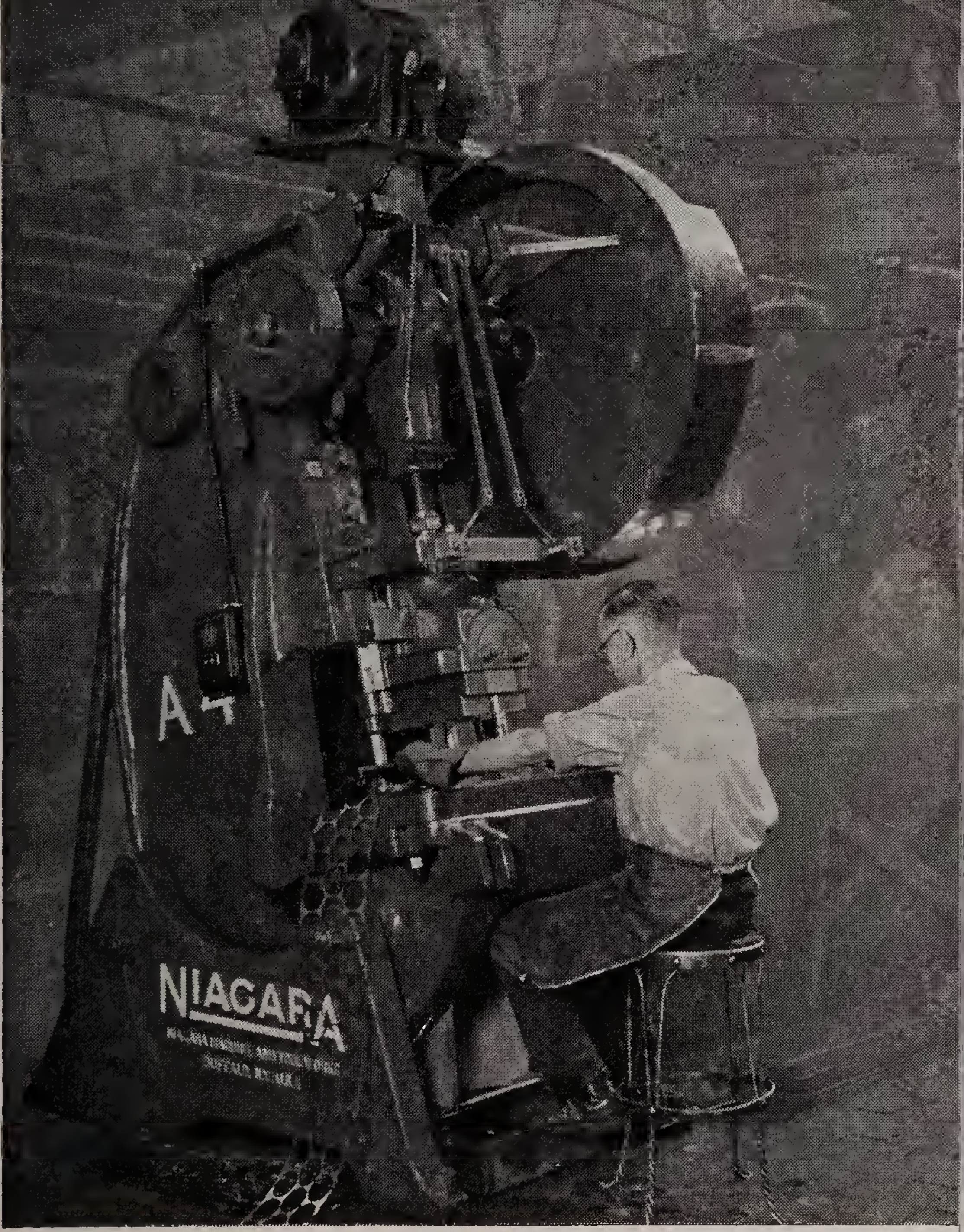
Patented

NIAGARA SLEEVE CLUTCH

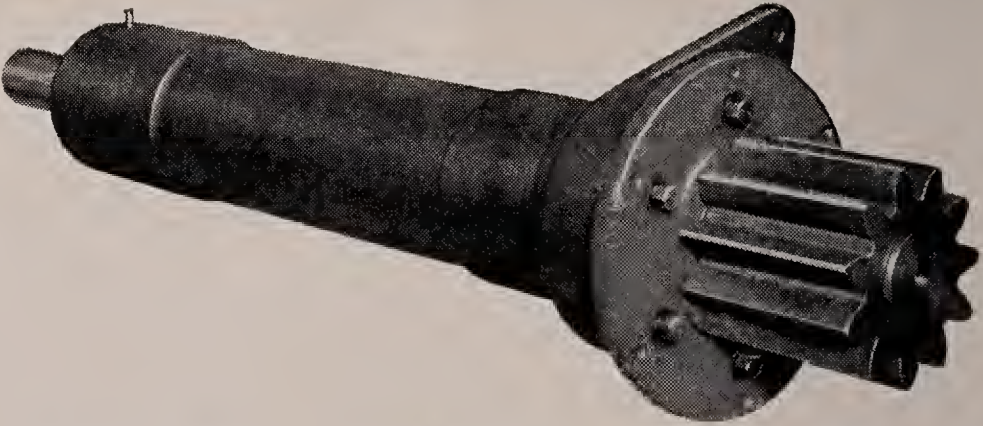
MORE WORKING STROKES PER HOUR

Multiple engaging points assure instant engagement and eliminate varying time lag. Built-in Single Stroke Mechanism prevents a second stroke until the treadle is completely raised and again depressed.



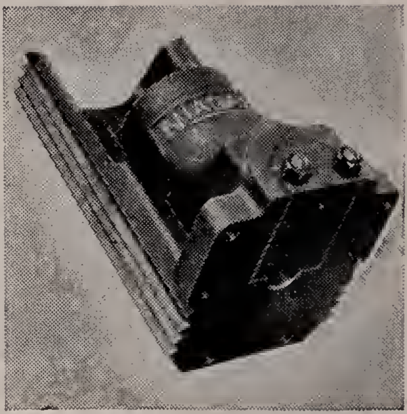


This is one of thousands of Niagara Series "A" Inclinable Presses throughout industry, where economies are multiplied by the many millions of parts produced.



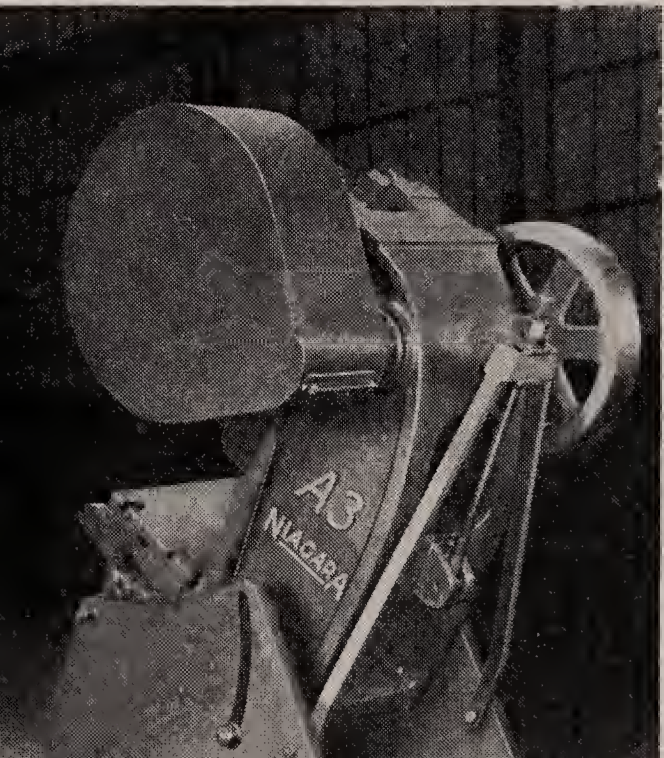
BACK SHAFT ASSEMBLY

Self-contained assembly is equipped with anti-friction bearings. It is mounted in holes bored in the frame to assure permanent alignment.



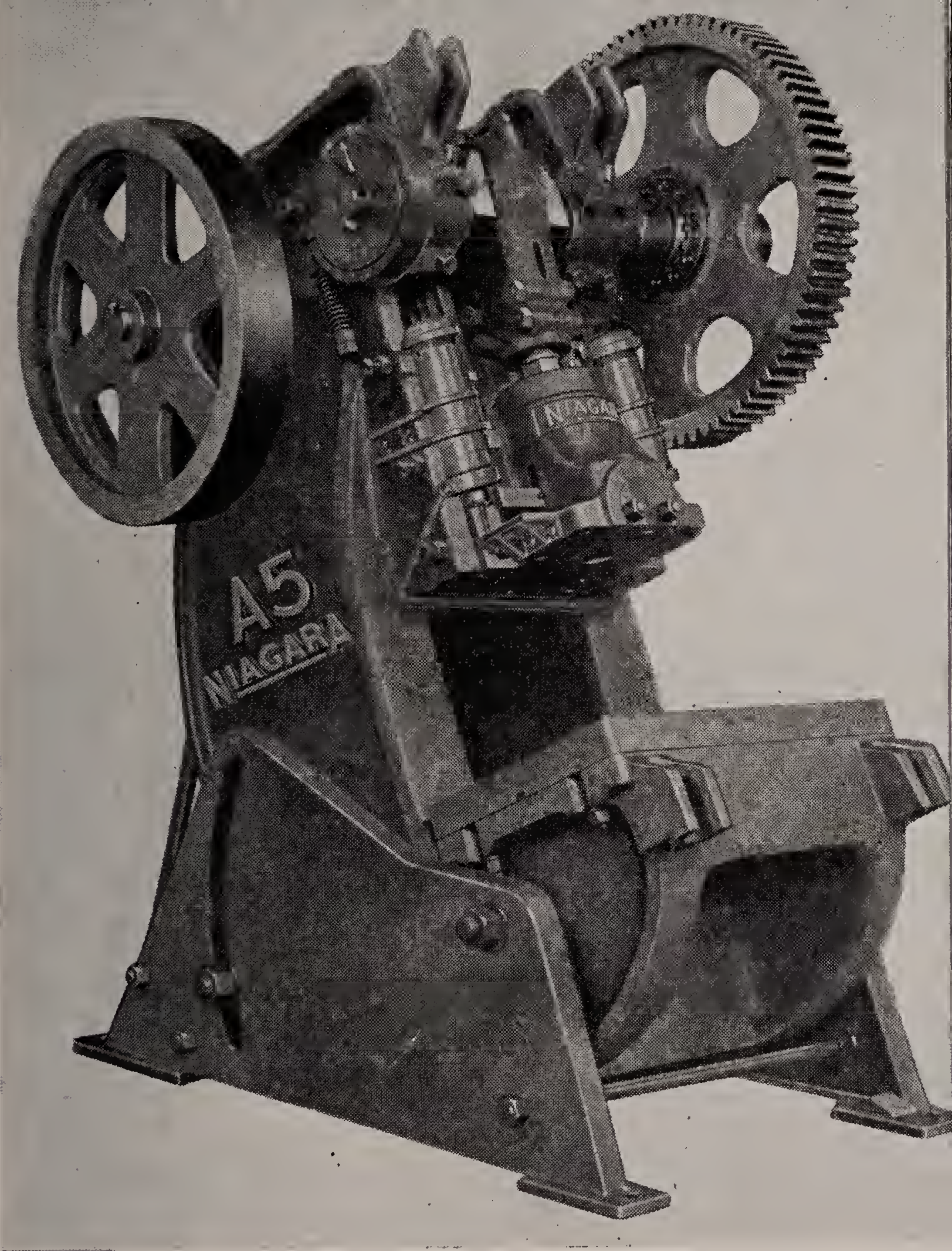
SLIDE

Strong, rigid slide has Niagara Breech Block Die Clamp providing adequate support for die under pressure. Slides have multiple "V" Gibs.

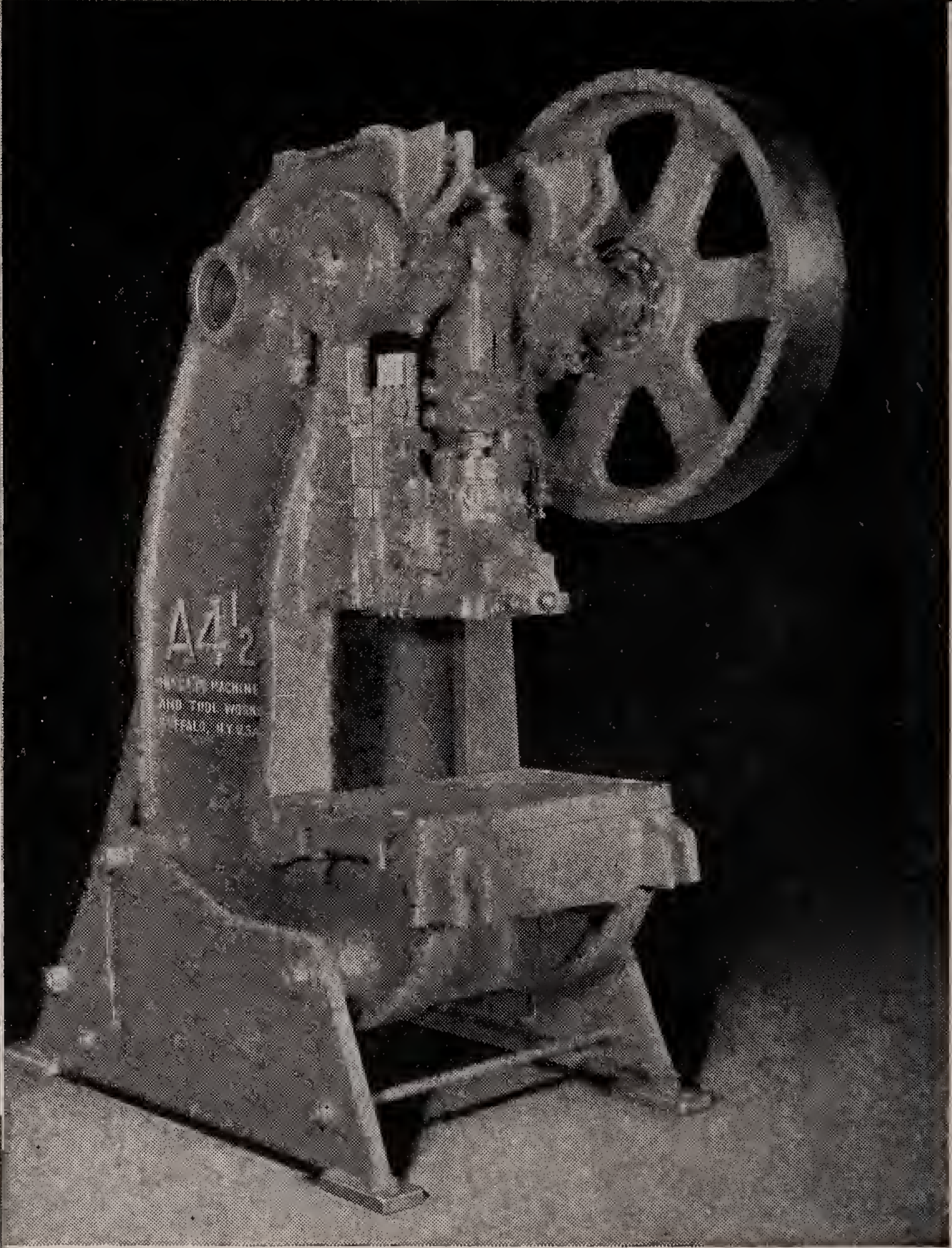


FRAMES

Strength and rigidity of Niagara frames are the foundation of accuracy and long die life. Notice the easily operated inclining mechanism—accessible and equipped with anti-friction bearing for one-man operation.

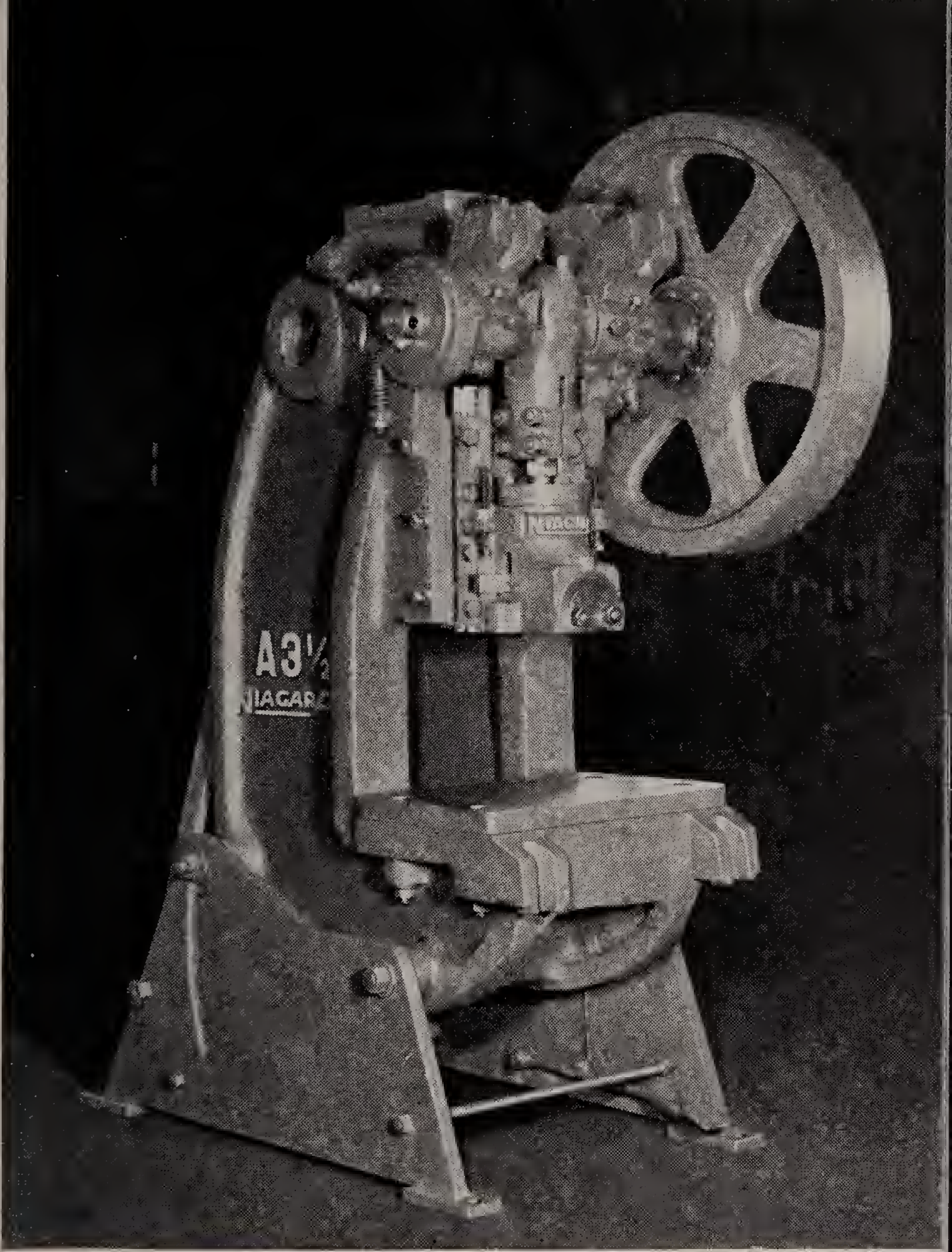


Niagara inclinable presses are adapted for feeding stock from either side or from front or back. Work can be discharged through opening in the bed or the opening in back when press is inclined.



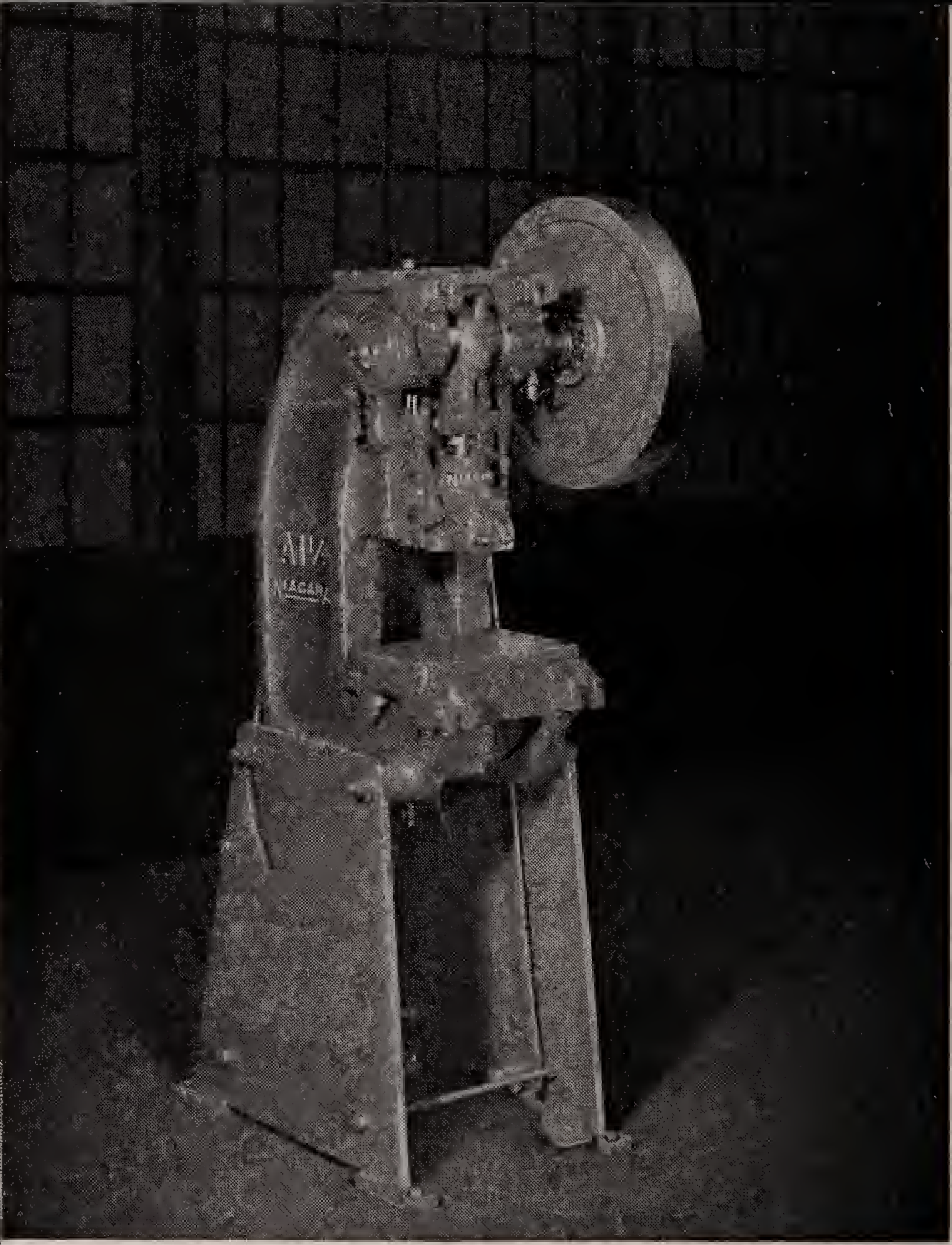
NIAGARA NO. A-4½ PRESS

The complete line of Niagara Series "A" Open Back Inclinable Presses ranges from 1¼" to 6½" diameter shafts.



NIAGARA NO. A-3½ PRESS

This size has a wide range of uses. Available with either semi-steel or steel casting frame. Plain and geared models



NO. A-1½ PRESS

The smaller sizes follow the same general design as the larger models. They combine high productive output with strength, rigidity, safety, accuracy, long die life, low operating and maintenance cost. See page 15 for condensed specifications.

NIAGARA SERIES "A" INCLINABLE OPEN BACK POWER PRESSES

Number	A-1¼	A-1½	A-1¾	A-2	A-2¼	A-2½	A-3	A-3½
	HIGH TENSILE CAST-IRON FRAMES							
Diameter of shaft in bearings and at connection with standard stroke......Inches	1¼-2⅜	1½-2¾	1¾-3¼	2-3¾	2¼-4⅛	2½-4½	3-5½	3½-4¼
BED—Area of bed, F-B x R-L .... "	6¼x9⅞	7½x11¾	8¾x13¾	10x15½	11¼x17½	12½x19½	15x23¼	17½x27
Rectangular opening — F-B x R-L.......... "	3⅜x5	4x6	4¾x7	5½x8	6x9	6¾x10	8⅛x12	9½x14
Circular opening, diameter .... "	4¼	5⅛	6	6¾	7⅝	8½	10¼	12
Center of slide to back "	3½	4¼	4¾	5½	6¼	7	8½	9½
Width of opening in back "	4⅝	5½	6½	7¼	8¼	9¼	11	13
SHUT HEIGHT—Bed to slide, stroke down and adjustment up with standard stroke .... "	4⅜	5¼	6¼	7	8	8¾	10½	12¼
Special Shut height........ "	6¾	8½	10¼	11	12	13	15½	18¼
*Nominal bolster thickness "	⅝	¾	1	1	1¼	1¼	1½	2
Adjustment of slide...... "	15/16	1⅛	1⅜	1½	1⅝	1⅞	2¼	2⅝
STROKE—								
Standard stroke .... "	1⅛	1¼	1½	1¾	1⅞	2	2½	3
Special strokes .... "	1¼, 1½, 1⅞, 2½	1½, 2, 2½, 3	1¾, 2¼, 3, 3½	2, 2½, 3, 4	2¼, 2¾, 3½, 4½	2¼, 3, 4, 5	3, 3½, 4¼, 5, 6	4, 5, 7
PLAIN PRESS (Not gd.) Weight ....Lbs.	500	750	1100	1500	2100	2800	4400	6200
Flywheel speed (strokes per min.) ..........R.P.M.	235	195	165	145	130	115	100	85
GEARED PRESS—Weight Lbs.	—	—	1200	1650	2300	3000	4700	6600
Strokes per minute, normal speed	—	—	68	63	60	57	52	48
HIGH SPEED GEARED, strokes per minute	—	—	105	95	85	81	72	65

*Thickness of bolster approximately 1/16″ less than nominal thickness.

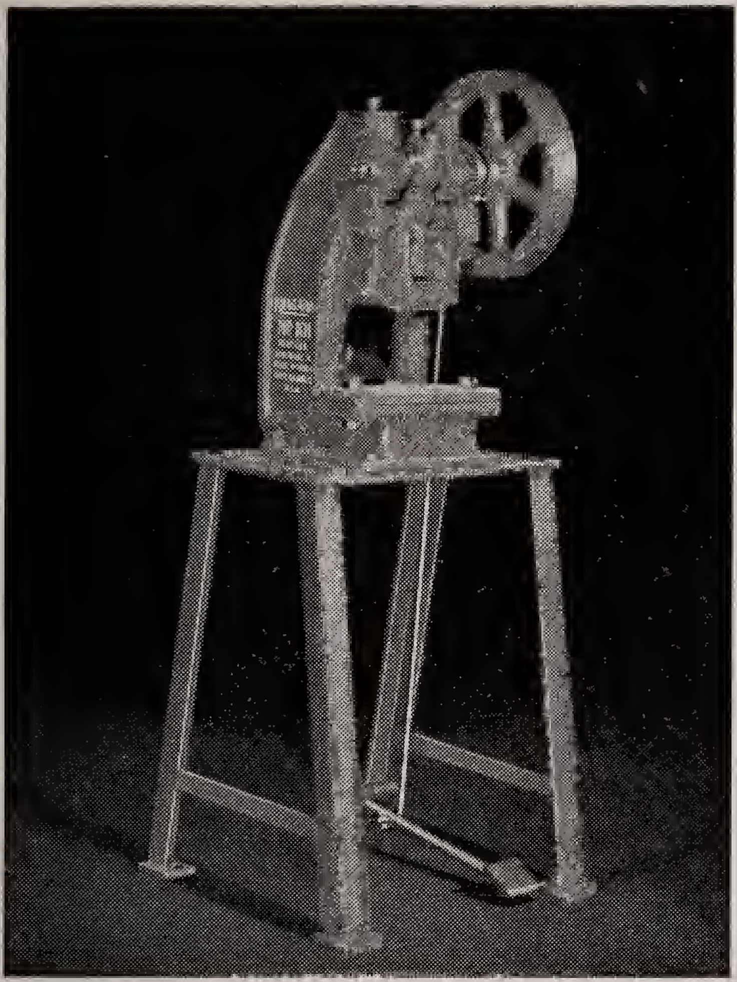
Complete specifications including tonnage ratings shown in Bulletin 58.

NIAGARA SERIES "A" INCLINABLE OPEN BACK POWER PRESSES

Number	A-3	A-3½	A-4	A-4½	A-5	A-5½	A-6½
	STEEL CASTING FRAMES						
Diameter of shaft in bearings and at connection with standard stroke....Inches	3-5½	3½-4¼	4-5	4½-5¾	5-6¼	5½-7	6½-8¼
BED—Area of bed, F-B x R-L....... "	15x23¼	17½x27	20x31	22½x35	25x39	27½x42⅝	32½x50½
Rectangular opening—F-B x R-L "	8¼x12	9½x14	11x16	12x18	13½x20	15x22	17½x26
Circular opening, diameter .... "	10¼	12	13½	15¼	17	18⅜	22
Center of slide to back.................... "	8½	9½	11¼	12½	13¾	15½	18
Width of opening in back.............. "	11	13	15	18	20	22	26½
SHUT HEIGHT — Bed to slide, stroke down and adjustment up with standard stroke .... "	10½	12¼	14	15¾	17¼	19¼	22½
Special Shut height .... "	15½	18¼	21	23¾	26	29	34
*Nominal bolster thickness............. "	1½	2	2	2¼	2½	2½	3½
Adjustment of slide......................... "	2¼	2⅝	3	3¾	3¾	4⅛	4⅞
STROKE—Standard Stroke .... "	2½, 3, 3½,	3	3½	4	4½	5	6
Special stroke .... "	4¼, 5, 6	4, 5, 7	4½, 6, 8	5, 7, 9	6, 8, 10	6, 8, 11	8, 10, 13
PLAIN PRESS (Not gd.) Weight....Lbs.	4400	5100	8800	11,700	—	—	—
Flywheel speed (strokes per min.) R.P.M.	100	85	75	65	—	—	—
GEARED PRESS—Weight ....Lbs.	4700	5500	9300	12,500	17,000	22,500	34,000
Strokes per minute, normal speed.........	52	48	45	42	40	38	35
HIGH SPEED GEARED, strokes per min.	72	65	60	56	53	49	44

Complete specifications including tonnage ratings shown in Bulletin 58.

*Thickness of bolster approximately 1/16" less than nominal thickness on A1¼-A4 sizes.

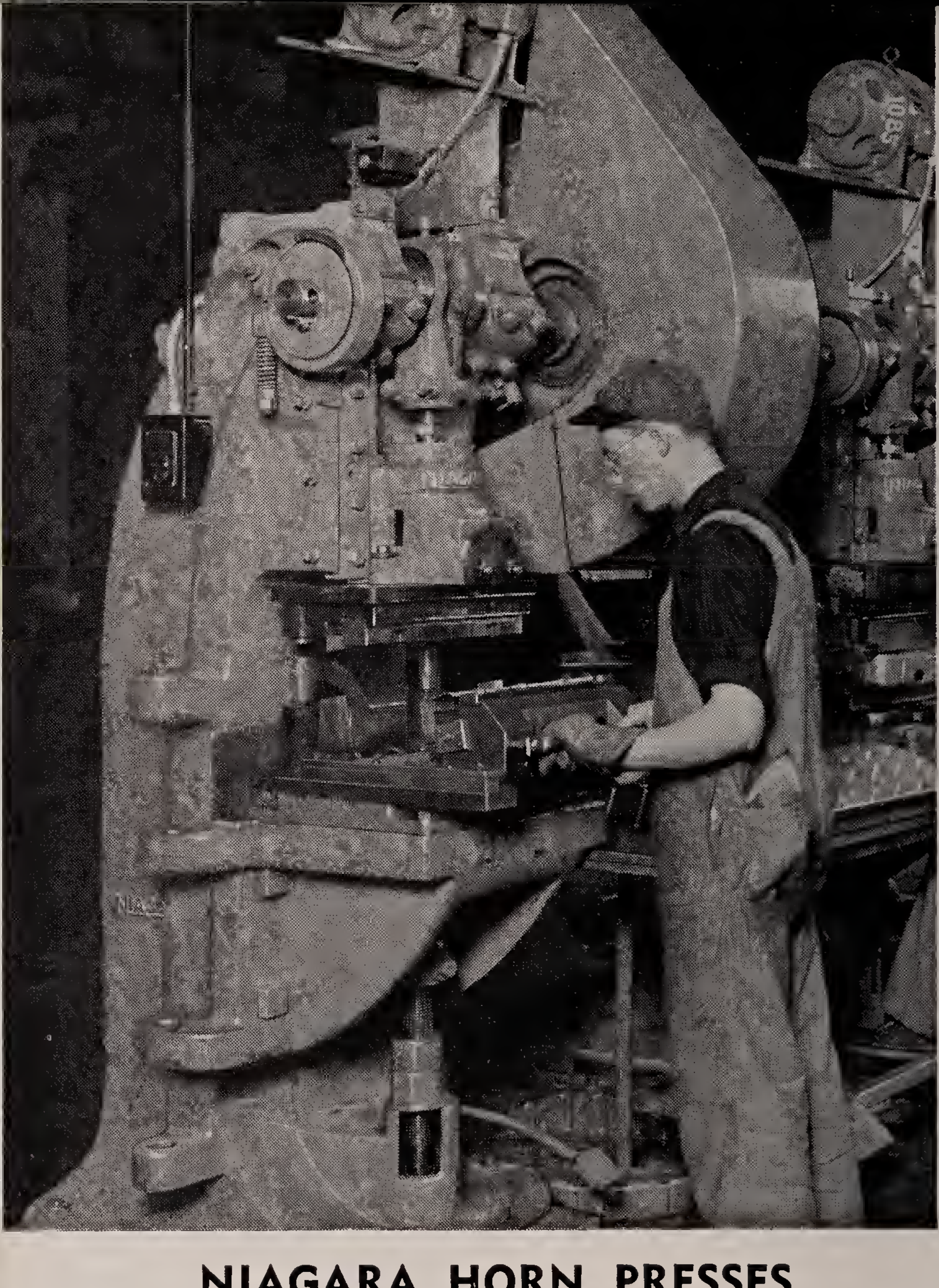


NIAGARA
POWER PRESS—NO. 101

For light punching and forming operations. Furnished with or without table. Complete specifications shown in Bulletin 59.

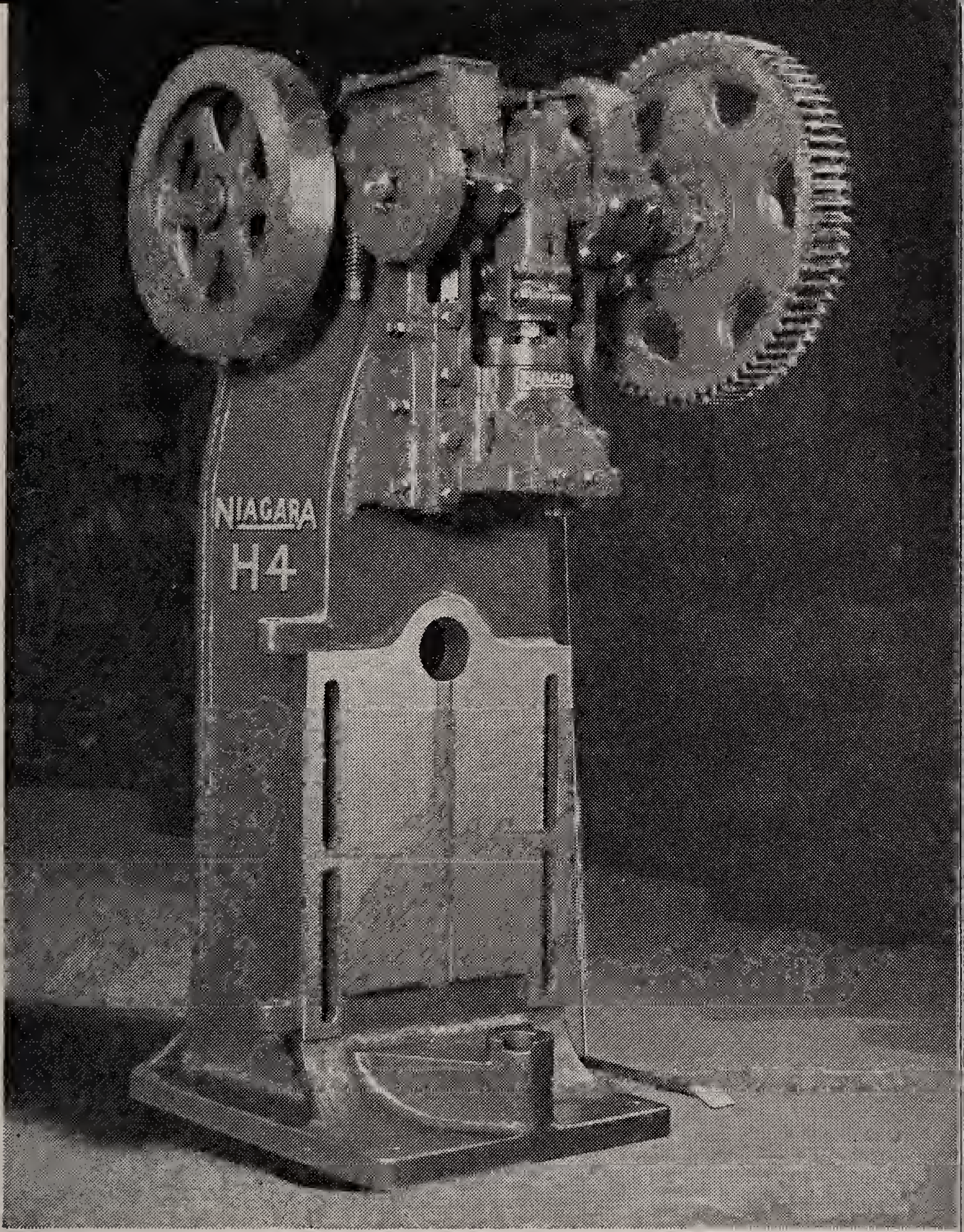
Number		101
Diameter of shaft on bearings and at connection with standard stroke	Inches	1⅜-2½
BED—Area of bed, F to B x R to L	"	6x12
Circular opening, diameter	"	3
Center of slide to back	"	3¾
Width of opening in back	"	5¼
SHUT HEIGHT—Bed to slide, stroke down and adjustment up	"	5
*Nominal thickness of plain bolster	"	⅝
STROKE—Standard stroke	"	1
Speed (strokes per minute)	R.P.M.	215

*Thickness of bolster approximately 1/16″ less than nominal thickness.



NIAGARA HORN PRESSES

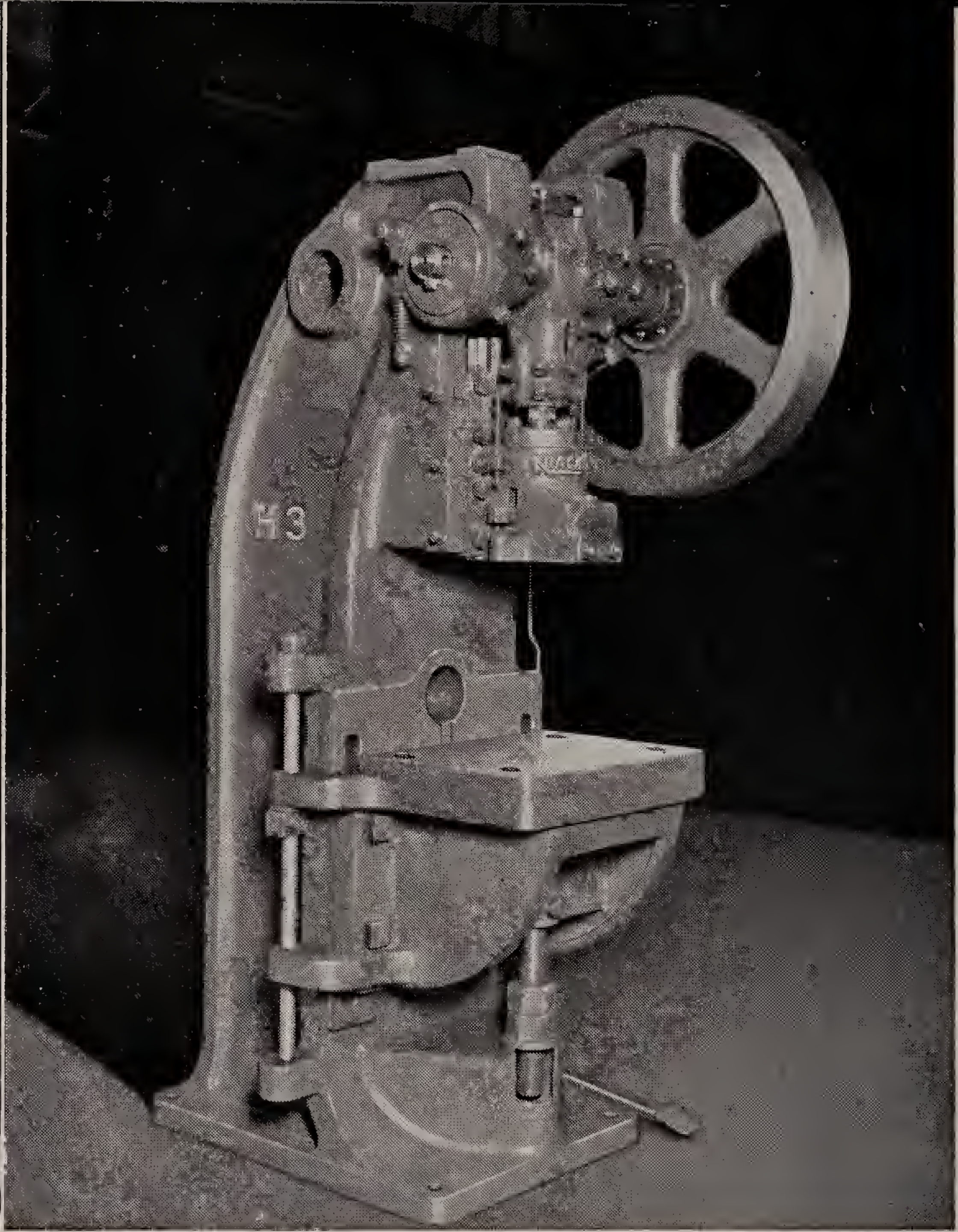
Due to their adaptability, Niagara Horn Presses are economical for manufacturers having work of a varied nature. Photograph shows one of many in large automotive plants.



Patented

NIAGARA NO. H-4 HORN PRESS

Steel casting frame, multiple point engagement sleeve clutch, latest type slide, multiple "V" gibs, self-contained back shaft assembly are a few advanced engineering features of this modern horn press.

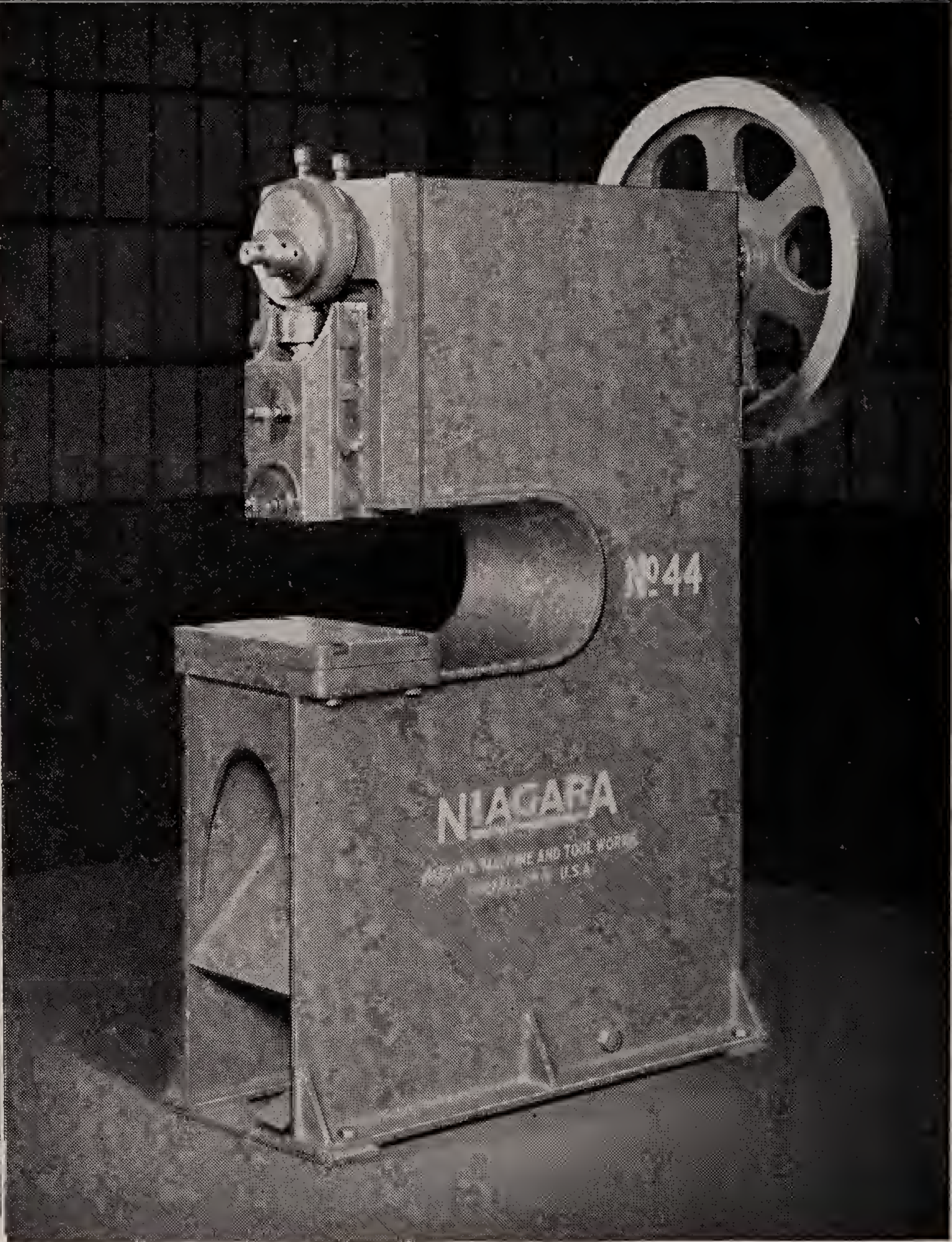


Niagara horn presses are made in normal duty capacities up to 62 tons. Available in plain and geared models with and without table, they are adapted for many operations.

NIAGARA HORN PRESSES

Number	H-2	H-2½	H-3	H-3½	H-4
RATING:					
Normal Duty rating......Tons	15	24	34	47	62
Diameter of shaft in bearings......Inches	2	2½	3	3½	4
Table—Screw adjustable, furnished only if ordered, either plain or hinged.					
Area of bolster, F to B x R to L......Inches	12x16	15x20	18x24	22x28	22x32
Rectangular opening in table, F to B x R to L "	6x8	7¾x9¾	9¾x13¼	11¾x14¾	11¾x17¾
DIE HEIGHT—Table to slide, stroke down and adjustment up with standard stroke ......(Min.-Max.) "	6-17	7½-18	8-19	8-20	10-22
Center of horn hole to slide, stroke down and adjustment up with standard stroke...... "	5	7	8	9	9½
*Nominal thickness of plain bolster...... "	1	1¼	1½	2	2
Adjustment of slide...... "	1½	1⅞	2¼	2⅝	3
STROKE—Standard ...... "	1¾	2	2½	3	3½
Special strokes ...... "	2, 2½, 3, 4	2½, 3, 4, 5	3, 3½, 4¼, 5, 6	4, 5, 7	4½, 6, 8
SLIDE—Hole for punch shank...... "	1½x2	2x2	2x2	2x2¾	2½x2¾
Distance between gibs...... "	5½	6¾	8⅛	9½	12
PLAIN PRESS (not geared)—					
Weight—without table ......Lbs.	1550	2600	4500	6300	8800
Weight—with table ...... "	1900	3200	5550	7900	10300
Flywheel, speed (strokes per minute)......R.P.M.	145	115	100	85	75
GEARED PRESS—					
Weight—without table ......Lbs.	1700	2800	4800	6700	9400
Weight—with table ...... "	2050	3400	5850	8300	10900
Number of strokes per minute......	63	57	52	48	45

*Thickness of bolster approximately $\frac{1}{16}$″ less than nominal thickness.



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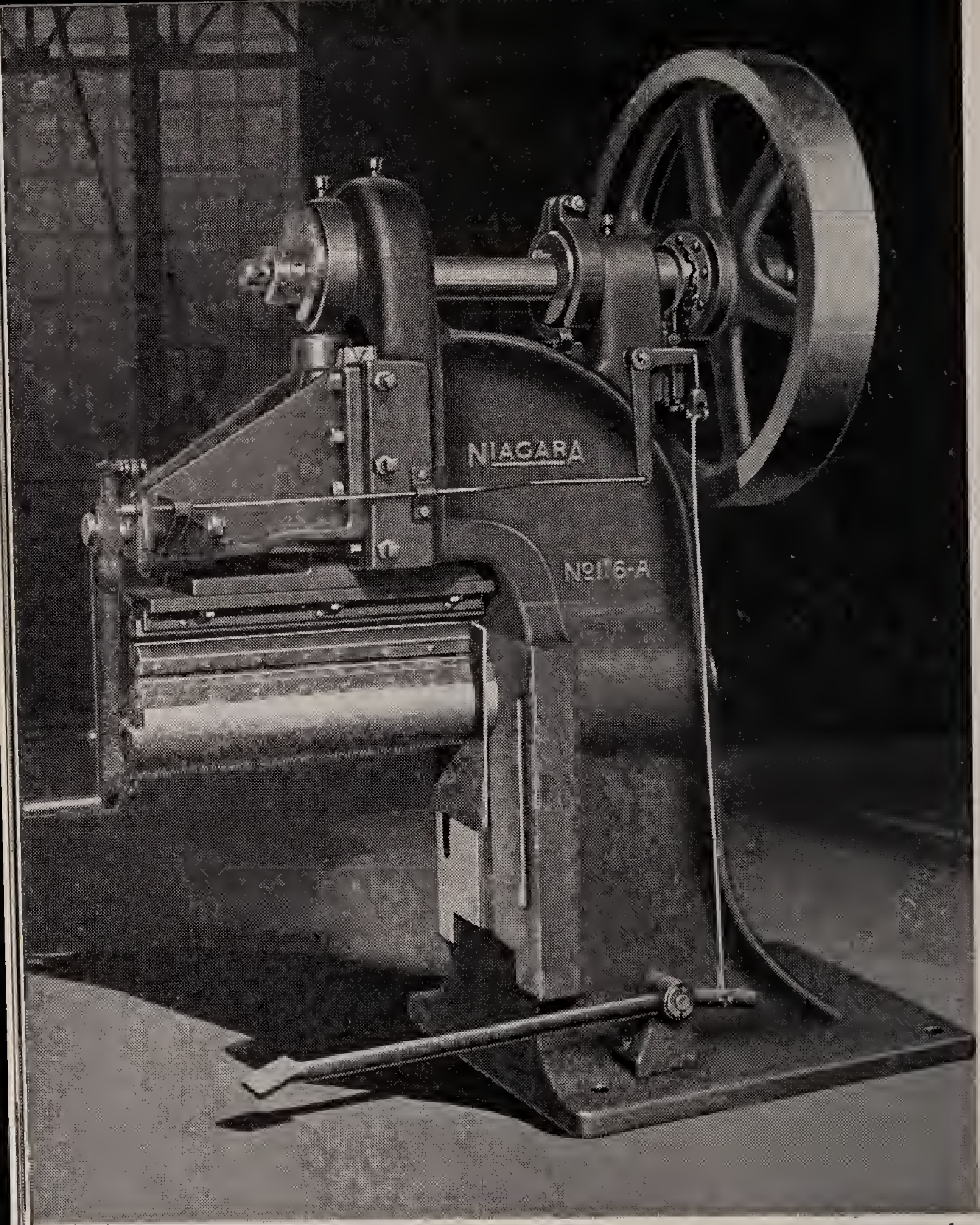
NIAGARA SERIES 40 DEEP THROAT PRESSES

The deep throat or gap provides for punching and riveting operations at a considerable distance from edge of sheet. Made in six sizes, write for complete specifications.

NIAGARA DEEP THROAT PRESSES—SERIES No. 40

	Number	43	44	44-A	45	46	47
SHAFT—Diameter in bearings	Inches	2¼	2½	2½	3	3½	4
BED—Area of bed, F to B x R to L	"	9½x13	10x16	10x16	11x15	17½x23	20x31
Opening in bed, F to B x R to L	"	5x8	6x8	6x8	6x8	12x14	11x16
Center of slide to back (throat)	"	12	20	25	18	20	24
DIE HEIGHT—Bed to slide, stroke down and adjustment up with standard stroke	"	7	7½	7½	7½	10¼	12
*Nominal thickness of plain bolster	"	1¼	1¼	1¼	1½	2	2
Adjustment of slide	"	2	3	3	3	3	3
Distance bed to gibs	"	8½	9¼	9¼	9¼	12¼	15
STROKE—Standard stroke	"	1	1½	1½	1½	1½	3
Maximum stroke	"	2	2	2	2	2	6
SLIDE—Area of slide, F to B x R to L	"	4½x6	5¾x6¼	5¾x6¼	5½x6¾	6½x9½	14x14
Hole for punch shank	"	2	2	2	2	2	2½
PLAIN PRESS (not geared)—Weight	Lbs.	1450	2000	2500	3200	5700	
Flywheel diameter and face	Inches	22x3	28x4	28x4	34x5	40x6	45x7
Flywheel weight	Lbs.	175	285	285	500	750	1100
Flywheel speed (strokes per min.)	R.P.M.	130	115	115	100	85	75
GEARED PRESS—Weight	Lbs.		2100	2600	3350	5850	
Flywheel diameter and face	Inches		18x2½	18x2½	20x3	25x4	30x5
Flywheel weight	Lbs.		85	85	175	275	500
Flywheel speed	R.P.M.		445	445	390	360	300
Ratio of gearing			7:1	7:1	6:1	6:1	6:1
Number of strokes per minute			65	65	65	60	50
FLOOR SPACE—Of base F to B x R to L	Inches	31x21	40x17½	50x17½	39x25	48x32	66x28
Overall—F to B x R to L—Plain	"	40x22	52x28	62x28	55x34	67x40	83x48
Overall—F to B x R to L—Geared	"		56x25	66x25	61x25	74x32	75x41
Height overall	"	68	72	72	79	88	125
MOTOR—Approximate horsepower required	H.P.	1	1½	1½	2	3	5
Speed of motor for individual drive—Plain Press	R.P.M.		750-900	750-900	750-900	750-900	750-900
Speed of motor for individual drive—Geared Press	R.P.M.		1500-1800	1500-1800	750-1200	750-1200	1500-1800

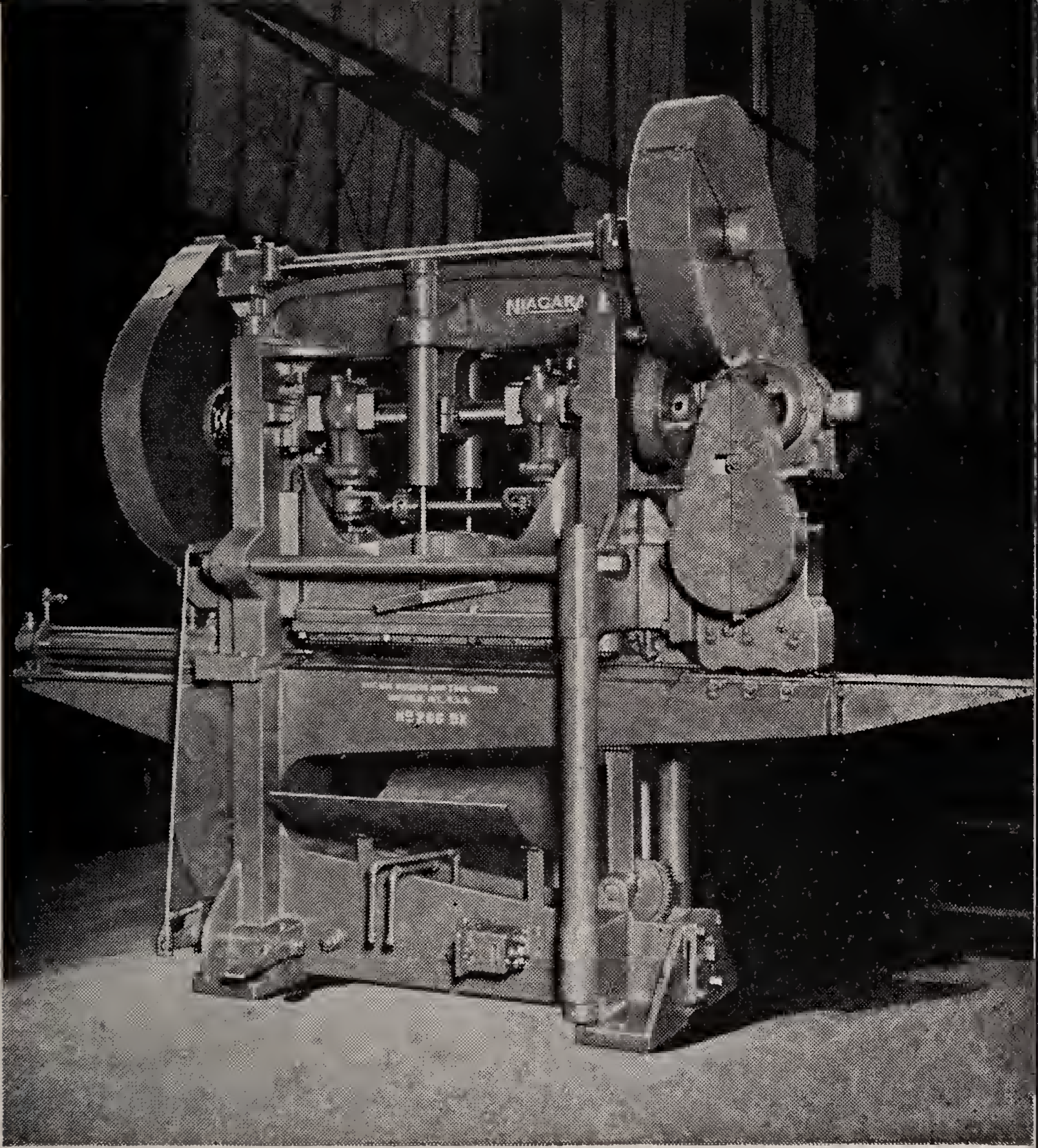
*Thickness of Bolster will be approximately 1/16" less than nominal thickness.



Patented

DUPLEX SIDE SEAMER ON NO. 116-A PRESS

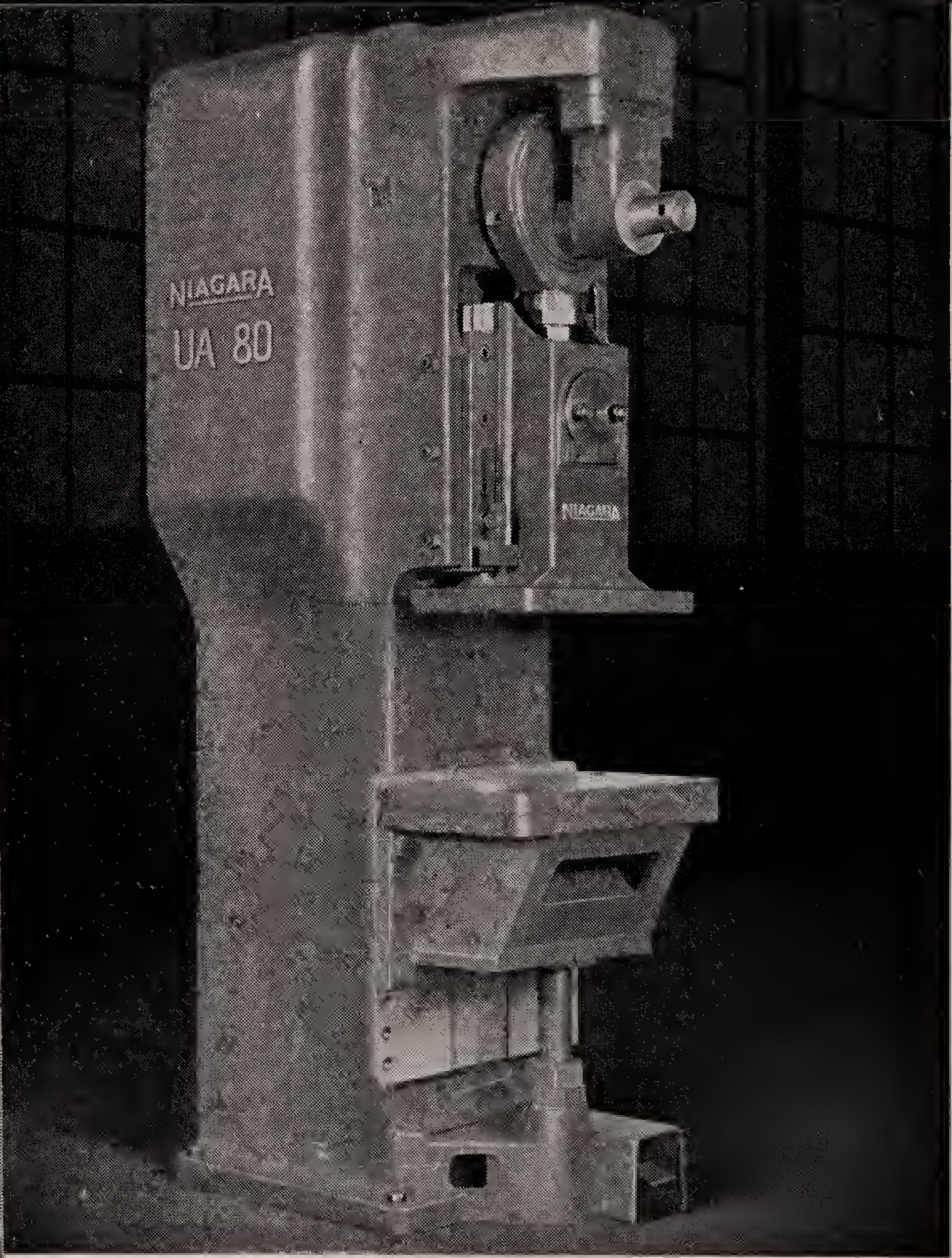
These machines make longitudinal lock seams on sheet metal cylinders, etc. On quantity production, this machine is far more efficient than ordinary methods of folding and grooving. Complete specifications in Bulletin 60. Also see Bulletin 82.



Patented

NIAGARA NO. 266-BX HORN PRESS WITH COMPOUND SEAM CLOSER ATTACHMENT

Produces compound seams on container bodies, including forming channels and finishing seam. All rolls have horizontal shafts and are power driven. Complete specifications in Bulletin 60. Also send for Drum Making Machinery Bulletin 82.

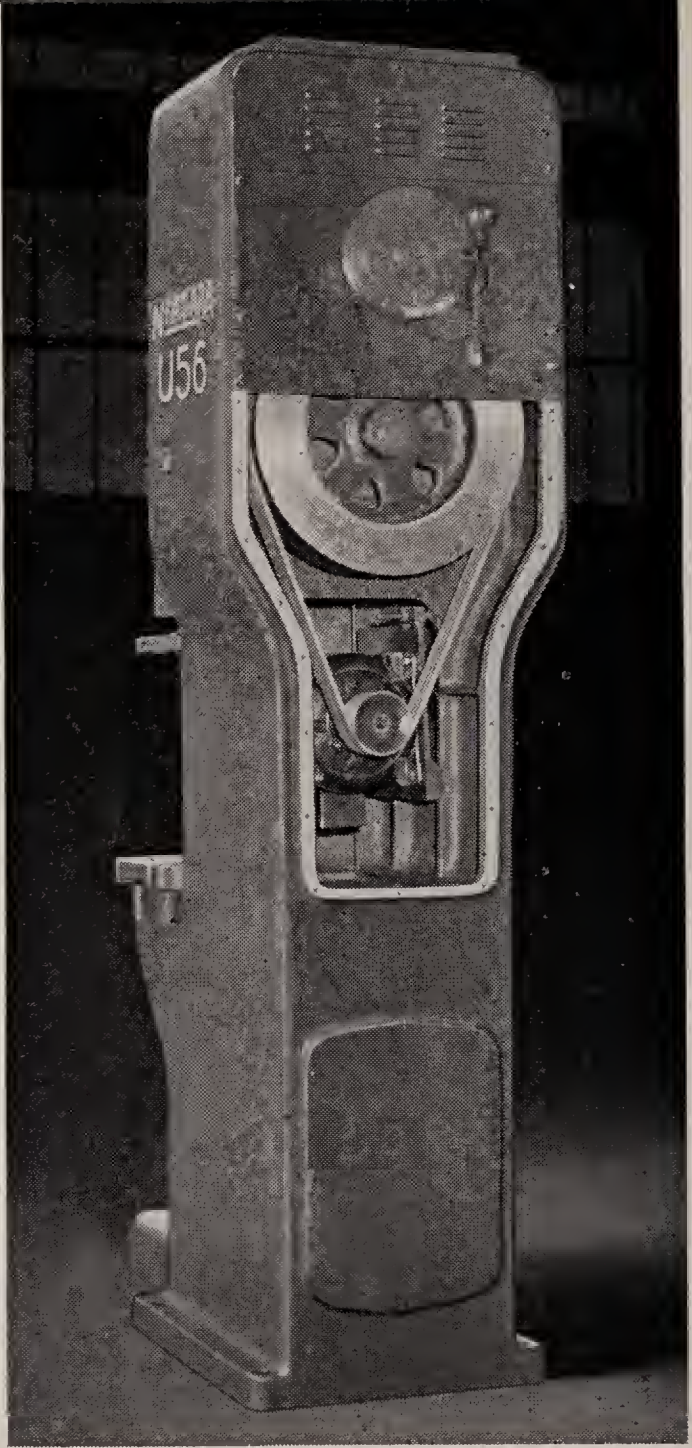


Patented

SERIES "U" AND "UA"

With motor, flywheel, clutch and all gears enclosed within frame, these streamlined presses require little floor space and can be placed close together for decreased material handling costs. See page 30.

One of several batteries totalling over two hundred Niagara Presses installed in the plants of one of the world's largest automobile factories.



U-56 PRESS, REAR VIEW

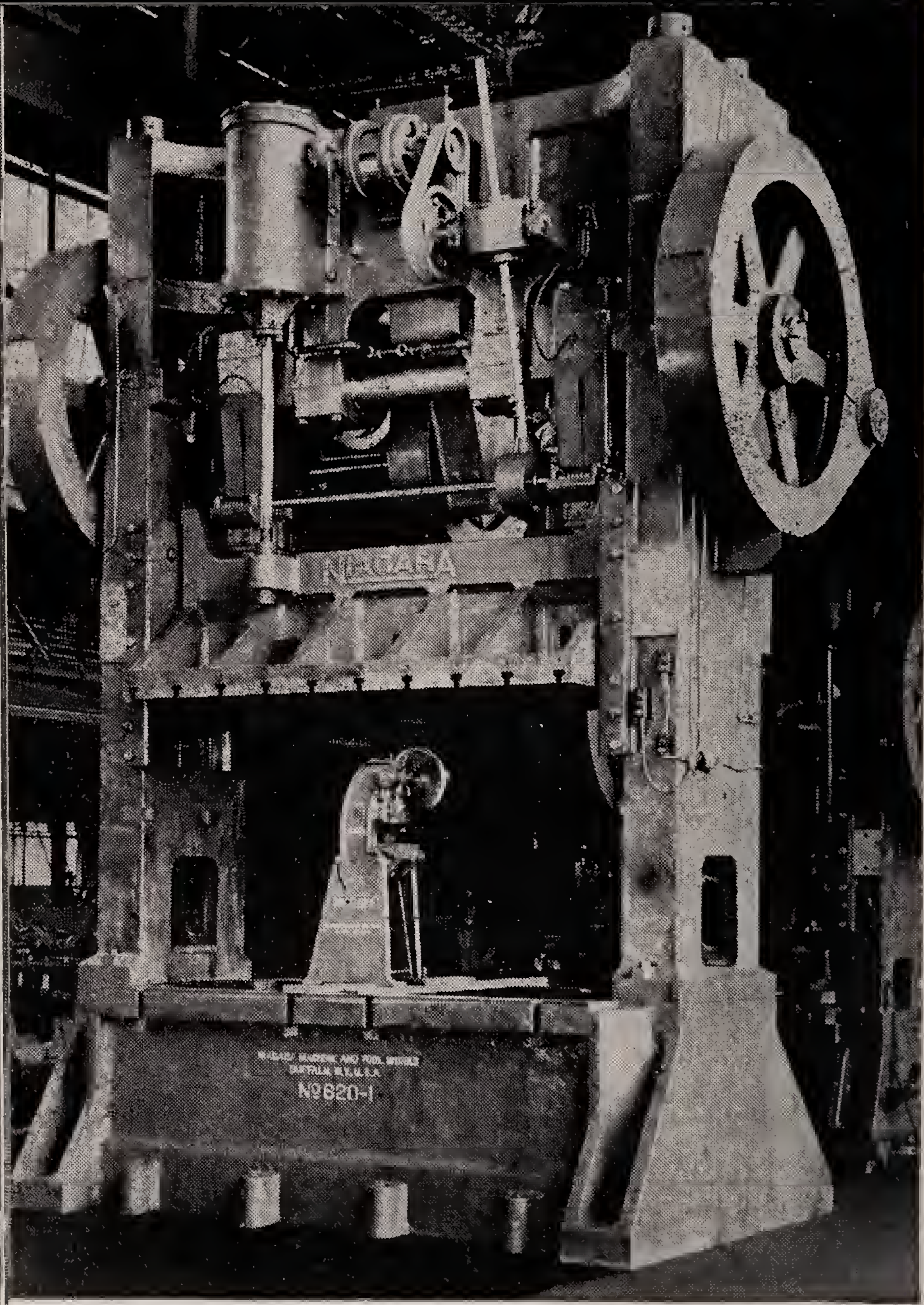
Motor compartment, cover removed, showing location of motor and flywheel, V-flat belt drive and adjustable motor bracket. Note ventilated cover for motor cooling. Brake automatically compensated for expansion . . . drum and band marked to indicate correct adjustment.

NIAGARA SERIES "U" AND "UA" PRESSES

Number	U-43	U-56	U-80	U-106	UA-43	UA-56	UA-80	UA-106
	With Fixed Bed				With or Without Adjustable Bed			
	CAST STEEL FRAMES							
†RATING:								
Normal Duty, Geared ....Tons	43	56	80	106	43	56	80	106
Diameter of shaft in main bearings ....Inches	3½	4	4½	5½	3½	4	4½	5½
BED—Area of bed, F-B x R-L “	13x22	15x24	18x28	22x32	—	—	—	—
Rectangular opening—F-B x R-L .... “	8x10	10x12	12x14	14x16	—	—	—	—
Center of slide to back........ “	7½	8½	10	12	7½	8½	10	12
					Minimum — Maximum			
DIE HEIGHT—Bed to slide, standard stroke down “	15¼	15	14¾	14½	10½x17½	12x20	13½x22½	16½x20½
*Nominal Thickness—bolster “	2	2	2½	2½	2	2	2½	2½
Adjustment of slide............. “	3	3	3½	4	3	3	3½	4
TABLE								
Area F. to B. x R. to L.	13x22	15x24	18x28	22x32	13x22	15x24	18x28	22x32
Opening F. to B. x R. to L.	8x10	10x12	12x14	14x16	8x10	10x12	12x14	14x16
STROKE—Standard stroke.... “	2½	3	3½	4	2½	3	3½	4
Maximum stroke .... “	5	5	6	7½	5	5	6	7½
SLIDE—Hole for punch shank “	2x3	2½x3	2½x3	3x3	2x3	2½x3	2½x3	3x3
Distance between gibs .... “	10½	11	12	15	10½	11	12	15
Area of flanged slide—F-B x R-L......................... “	12x16	14x20	16x24	20x28	12x16	14x20	16x24	20x28
FLOOR SPACE—Of Base, F-B x R-L .... “	31x25	35x26	40x32	50x40	33½x25	38½x26	43½x32	54x40
Overall F-B x R-L............... “	45x26½	55½x30	63½x36	77x42	45x26½	55½x30	63½x36	77x42
Height overall .... “	105	112	120	136	105	112	120	136
MOTOR required .......................H.P.	3	5	5	7½	3	5	5	7½
Speed for individual drive..R.P.M.	1800	1800	1800	1800	1800	1800	1800	1800
GEARED PRESS—Weight......Lbs.	5400	7300	11,300	15,800	5200	7000	10,800	15,200
Strokes per minute, normal speed	50	50	50	50	50	50	50	50
Flywheel, speed ..................R.P.M.	375	375	375	375	375	375	375	375
Flywheel, diam. and face..Inches	20½x5½	24x6	29½x6½	33x7½	20½x5½	24x6	29½x6½	33x7½

†Ratings are at bottom of stroke. Stroke deviating from standard and other modifications charged for extra. Furnished with "V" Flat Drive.

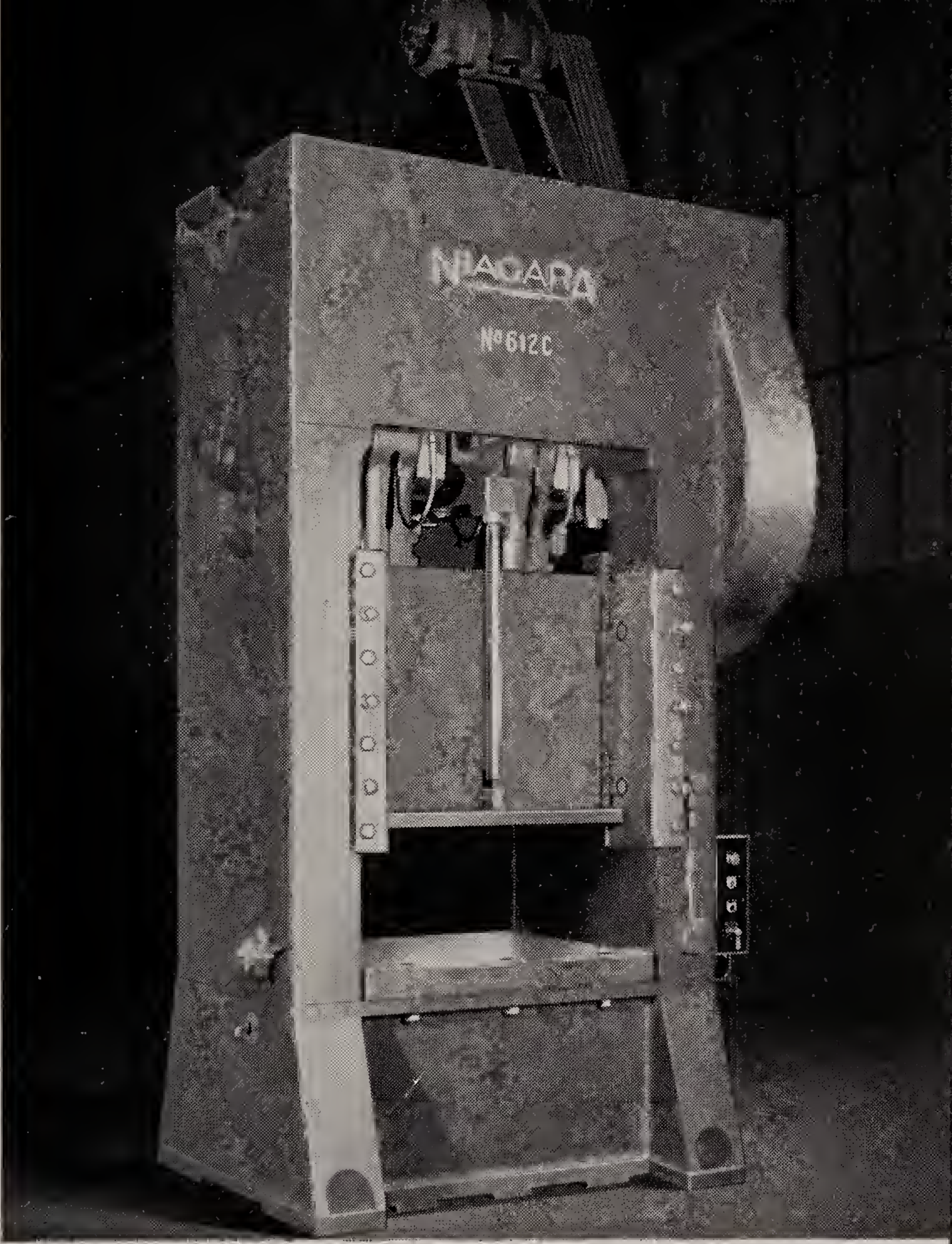
*Thickness of bolster for No. 43 to 80 Presses approximately $\frac{1}{16}$" less than nominal thickness.



Patented

NIAGARA DOUBLE CRANK PRESSES

This photograph of "a press within a press" shows why press users automatically turn to Niagara for a complete line of sizes, capacities and types to fit their production requirements.



Patented

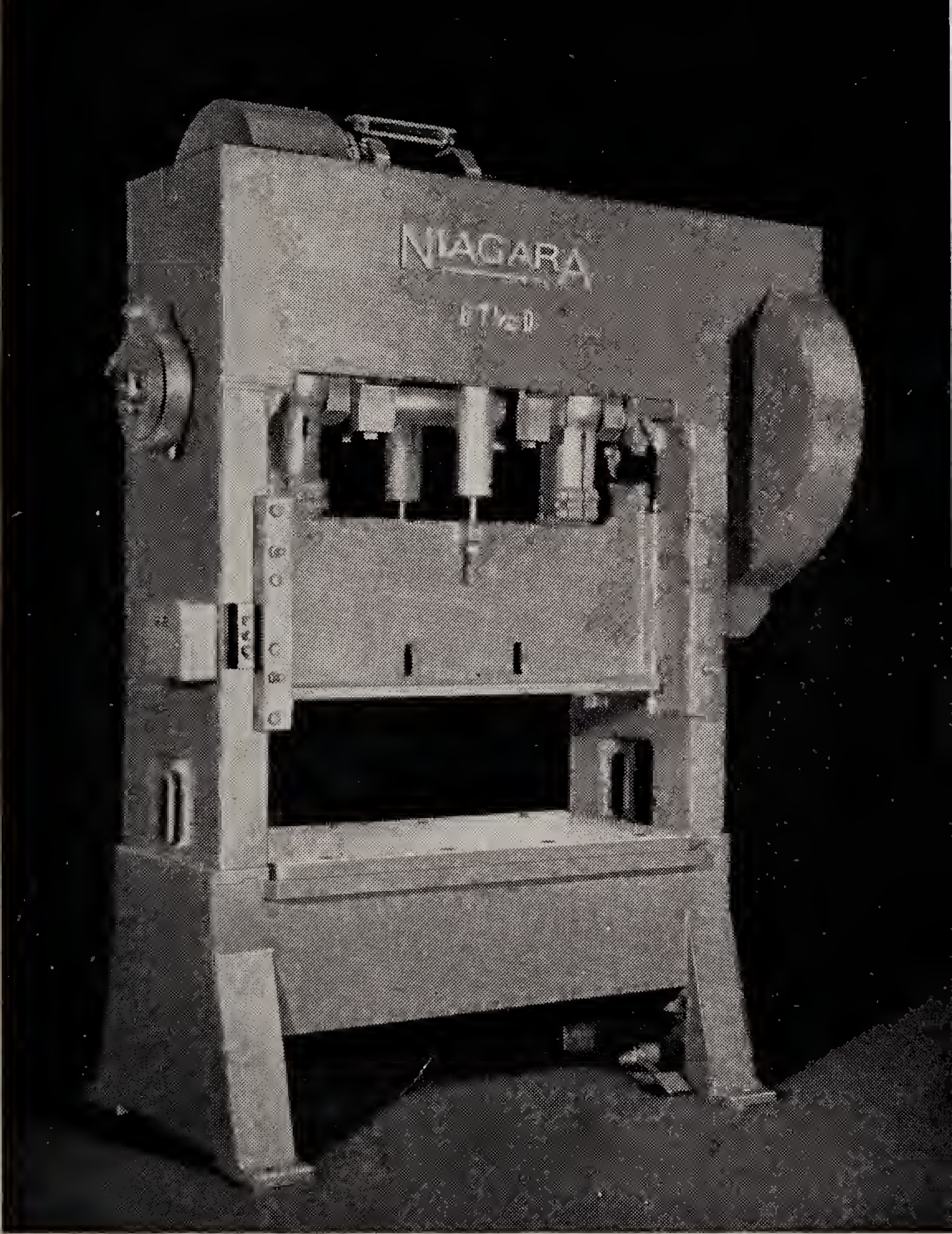
NIAGARA DOUBLE CRANK PRESSES

Widely used by the automotive, airplane, electrical, metal furniture, refrigeration, steel drum and other industries requiring large area parts. Built in a complete line of sizes.

DOUBLE CRANK POWER PRESSES—Series No. 60

Number	65B	65E	66B	66F	67B	67F	67½B	67½F	68B	68G	69B	69J
CRANKSHAFT—												
Diameter in bearings and at crankpins ....Inches	3-3½	3-3½	3½-4	3½-4	4-4½	4-4½	4½-5½	4½-5½	5-6¼	5-6¼	6-7½	6-7½
BED—												
Area of bolster, F to B x R to L ....Inches	17x36	17x72	25x36	25x84	28x36	28x84	31x36	31x84	33x36	33x96	39x36	39x132
Opening in Bed, F to B x R to L .... "	12x30	12x66	17x30	17x78	19x28	19x76	21x30	21x78	23x30	23x90	28x30	28x126
SHUT HEIGHT—												
Bed to slide, stroke down, adjustment up, with standard stroke .... "	10	10	10	10	11	11	11½	11½	12	12	13	13
Thickness of plain bolster "	1½	1½	1½	1½	2	2	2	2	2½	2½	2½	2½
Adjustment of slide .... "	2	2	2¼	2¼	2½	2½	3	3	3¼	3¼	3½	3½
STROKE—												
Standard Stroke .... "	2	2	2	2	3	3	3	3	4	4	4	4
Maximum stroke .... "	4	4	4	4	6	6	6	6	8	8	8	8
PLAIN PRESS—												
(Not geared)—Weight ....Lbs.	4800	7500	7600	—	10,300	—	13,000	—	17,500	—	—	—
Flywheel, speed (Strokes per minute) ......................R.P.M.	85	85	75	—	65	—	60	—	55	—	—	—
SINGLE GEARED PRESS—												
Weight ....Lbs.	5400	8100	8500	14,000	11,500	17,200	14,500	21,000	19,500	32,000	26,000	63,000
Number of strokes per minute......	45	45	45	45	42	42	42	42	40	40	33	33
GAP PRESS—												
Center of slide to back......Inches	7	7	7	7	8	8	—	—	—	—	8	8
Weight—plain ....Lbs.	5500	8200	8400	—	11,300	—	—	—	—	—	—	—
—geared .... "	6100	8800	9300	14,800	12,500	18,200	—	—	—	—	21,500	49,000

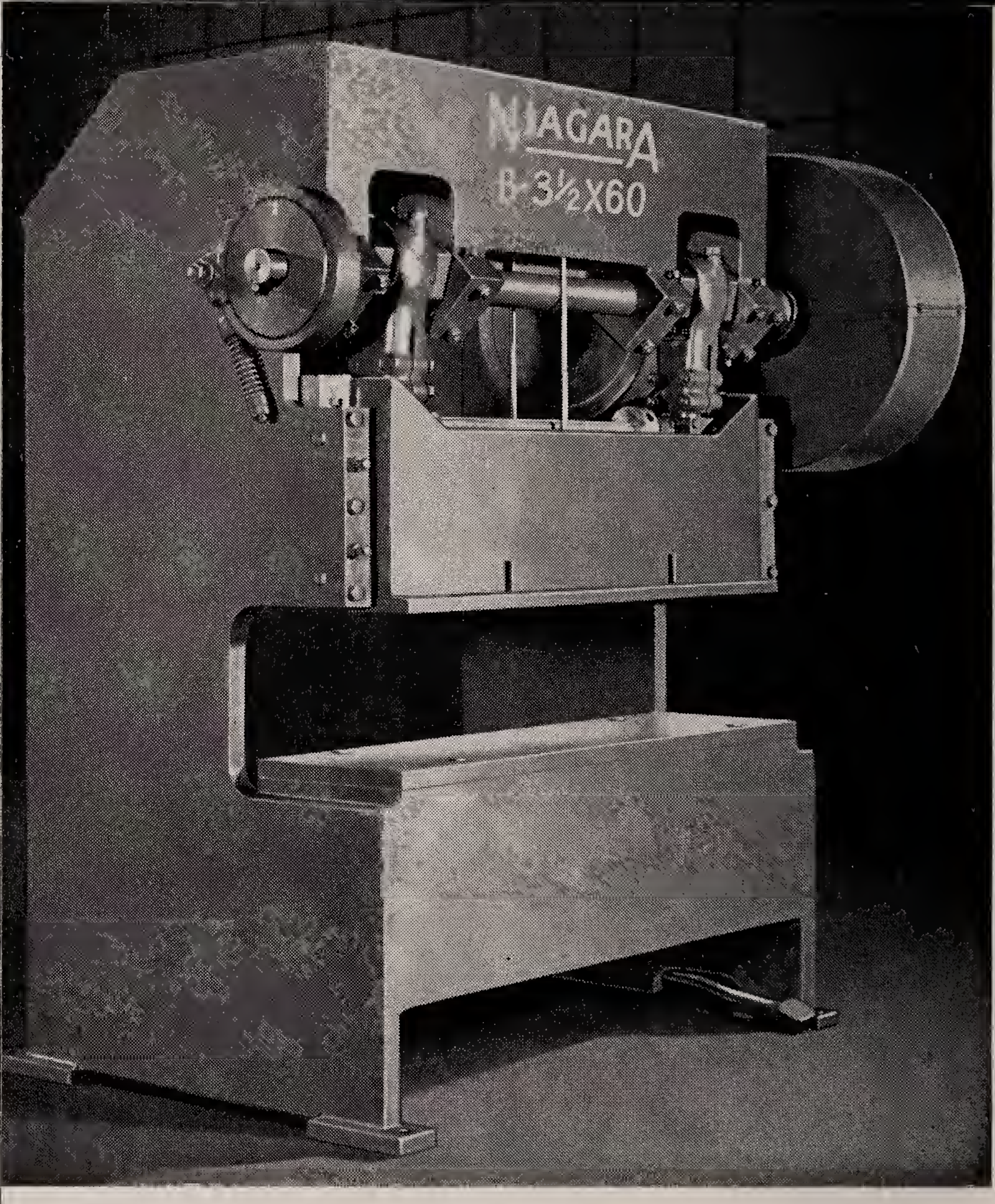
Specifications show shortest and longest of each number press—complete details of sizes "in between" and Gap Press dimensions shown in Bulletin 64.



Patented

NIAGARA DOUBLE CRANK PRESSES

Modern design, strength, rigidity and convenient operation result in long die life, more working strokes per hour and maximum economy.



Patented

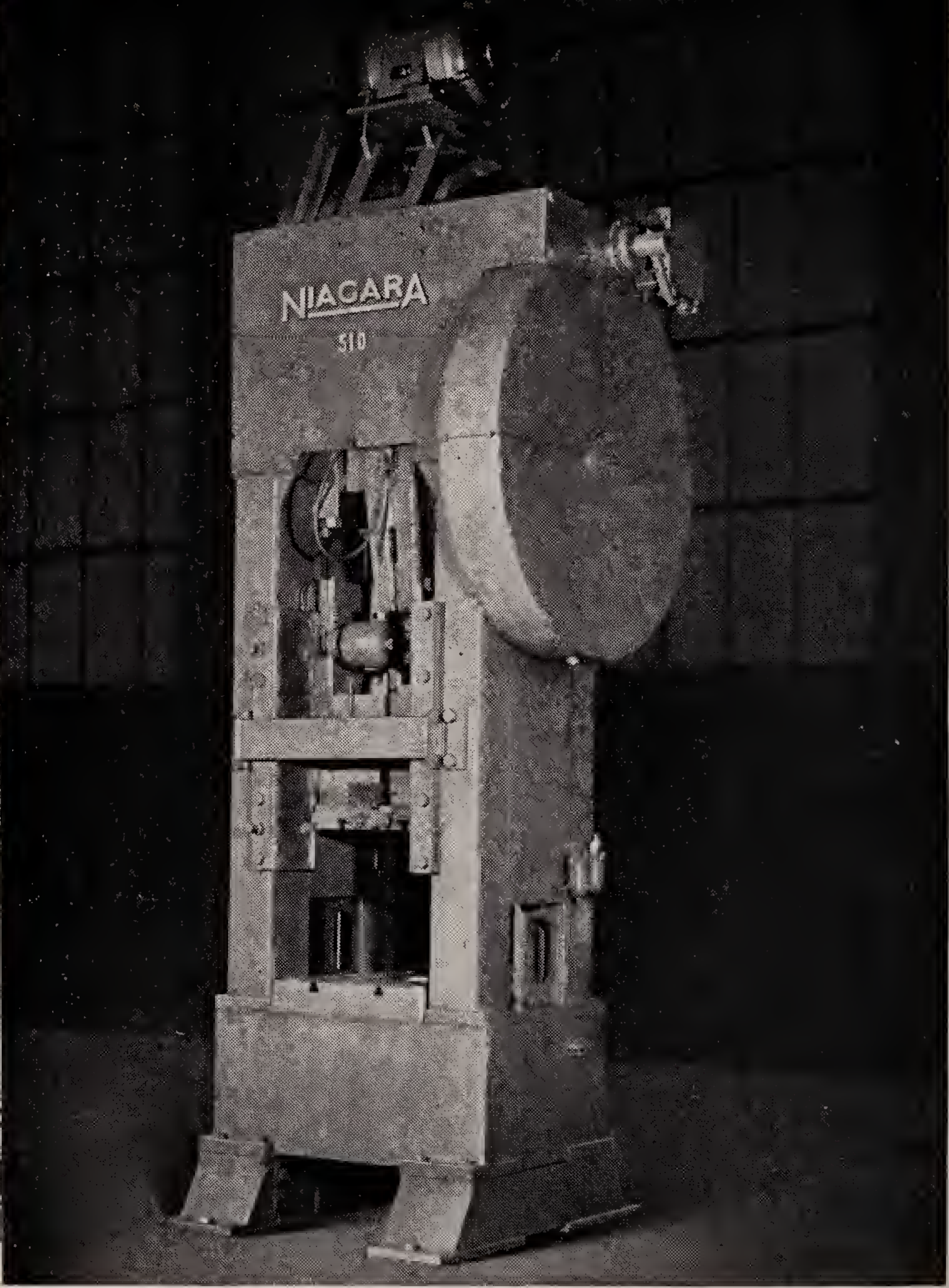
NIAGARA DOUBLE CRANK GAP PRESSES

Used extensively for blanking, shallow forming, and bending. Can be arranged for multiple and gang punching dies. Complete data and specifications are given in Niagara Bulletin 65.

DOUBLE CRANK POWER PRESSES—Series No. 60

Specifications show shortest and longest of each number press—complete details of sizes "in between" shown in Bulletin 64.

Number	610BX	610-I	612C	612-I	615D	615K	620D	620K	625E	625K
CRANKSHAFT — Diameter in bearings and at crankpins..........Inches	6½-8	6½-8	7¼-9	7¼-9	8-10	8-10	9-11¼	9-11¼	10-12½	10-12½
BED—Area of bolster, F to B x R to L..........Inches	41x42	41x120	46x48	46x120	50x62	50x144	54x62	54x144	61x74	61x144
Opening in bed, F to B x R to L "	30x36	30x114	34x42	34x114	36x56	36x138	40x55	40x137	45x66	45x136
SHUT HEIGHT — Bed to slide, stroke down, adjustment up, with standard stroke .... "	15	15	18	18	20	20	24	24	27	27
Thickness of plain bolster.......... "	2½	2½	3½	3½	3½	3½	4½	4½	4½	4½
Adjustment of slide .... "	4	4	4½	4½	5½	5½	6	6	6½	6½
STROKE—Standard stroke .... "	5	5	6	6	7	7	8	8	9	9
Maximum stroke .... "	10	10	12	12	14	14	16	16	18	18
SINGLE GEARED PRESS—										
Weight ....Lbs.	35,800	—	49,500	—	—	—	—	—	—	—
Number of strokes per minute..........	33	—	30	—	—	—	—	—	—	—
DOUBLE GEARED PRESS—										
Weight ....Lbs.	37,800	72,000	52,000	97,000	73,000	—	—	—	—	—
Number of strokes per minute..........	20	20	18½	18½	12	12	10	10	9	9
DOUBLE GEARED PRESS— TWIN DRIVE—Weight ....Lbs.	—	73,500	54,000	99,000	75,500	144,000	92,000	170,000	123,000	218,000



Patented

NIAGARA SINGLE CRANK PRESSES

Series 50 Niagara Single Crank Presses are widely used in the production of heavy stampings requiring a concentrated pressure. See condensed tabulations pages 37 and 38.

SINGLE CRANK POWER PRESSES—Series No. 50

Number	54	55	56	57	57½	58	59
CRANKSHAFT — Diameter in bearings and at crankpin......Inches	3-3¾	3½-4¼	4-5	4½-5¾	5-6¼	5½-7	6½-8
BED — Area of bed, F to B x R to L......Inches	18x12	20x16	22x18	25x22	28x24	30x25	31x27
Opening in bed, F to B x R to L...... "	9x9	13x13	14x14	16x16	18x18	19x19	20x20
DIE HEIGHT — Bed to slide, stroke down and adjustment up, with standard stroke...... "	9	10	12	13	14	15	19
*Nominal Thickness of bolster .. "	1¼	1½	2	2	2½	2½	3½
Adjustment of slide ...... "	2¼	2½	3	3½	4½	4	4½
STROKE — Standard stroke...... "	3	3	4	4	5	5	6
Maximum stroke ...... "	5	6	8	8	8	8	10
PLAIN PRESS (Not Geared)—							
Weight ......Lbs.	2600	3900	5700	8200	10,400	16,300	23,300
Flywheel, speed (strokes per minute) ......R.P.M.	100	85	75	65	60	55	33
SINGLE GEARED PRESS —							
Weight ......Lbs.	3100	4500	6400	9200	11,600	18,000	26,000
Number of strokes per minute......	55	55	50	48	43	37	45

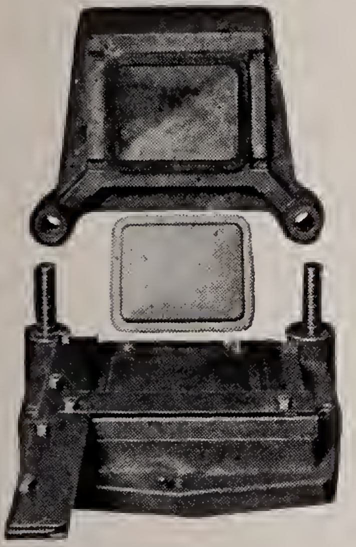
Complete specifications shown in Bulletin 63.

*Thickness of bolster for No. 54 to 57 Presses approximately $\frac{1}{16}$" less than nominal thickness.

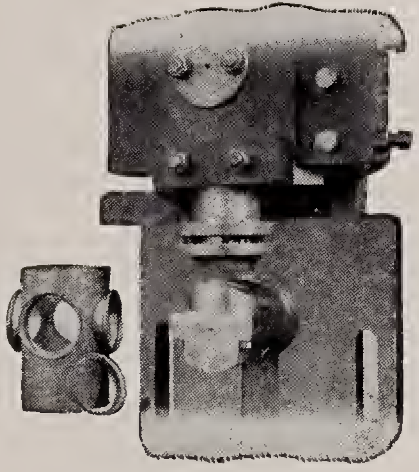
SINGLE CRANK POWER PRESSES—Series No. 50—Continued

Number	510	512	515	520	525	530
CRANKSHAFT — Diameter in bearings and at crankpin......Inches	7x8¾	8-10	9x11¼	10-12½	11-13¾	12-13
BED — Area of bed, F to B x R to L......Inches	35½x28	40x30	48x37	52x40	54x41	54x41
Opening in bed, F to B x R to L...... "	22x22	24x24	28x28	32x32	32x32	32x32
DIE HEIGHT — Bed to slide, stroke down and adjustment up, with standard stroke...... "	20	22	25	27	30	30
Thickness of plain bolster...... "	3½	3½	4½	4½	4½	5½
Adjustment of slide...... "	5	5½	6½	7¼	7¾	8½
STROKE — Standard stroke...... "	6	7	8	9	10	11
Maximum stroke...... "	12	14	18	20	22	22
SINGLE GEARED PRESS —						
Weight......Lbs.	32,500	46,000	75,000	—	—	—
Number of strokes per minute......	33	33	30	—	—	—
DOUBLE GEARED PRESS —						
Weight......Lbs.	36,000	51,000	78,000	—	—	—
Number of strokes per minute......	18½	17½	12	9½	9	7½
DOUBLE GEARED PRESS — Twin Driven—Weight......Lbs.	—	—	80,000	92,000	117,000	145,000

Complete specifications shown in Bulletin 63.



Forming Die for
Stove Door Panels



Curling Die for
Clinching Circular Seam

Many years of contact with the Press and Die industry places us in a position to maintain a highly efficient Die Department. Die designers and die makers devote their entire time to die work. Thru them we are able to offer you dies properly designed and built for long life and economical service.

Combination Cutting
and Drawing Die
for Small Cup

Combination Blanking
and Drawing Die
for Drum Heads

NIAGARA CIRCLE SHEARS

Number	02	04	116A	116B	116D	216B	216D	316B	316C	316E	416C	416G
Capacity, mild steel..........Gage	20	20	16	16	16	⅛″	⅛″	3/16″	3/16″	3/16″	¼″	¼″
Will circle from a square blank..Inches	3-22	4-46	4-48	4-48	6-60	*10-48	*10-60	*12-48	*12-60	*12-60	**17-58	**17-58
Throat—cutters to frame.......... "	9½	9½	13	19	31	19	31	19	25	37	25	49½
Slitting gage range—min.—max...Inches	½-9	½-9	⅝-12	⅝-18	⅝-30	⅝-18	⅝-30	1-18	1-24	1-36	1-23	1-47½
Throat of circle arm.......... "	16	34½	34½	34½	42½	34½	42½	34½	42½	42½	41½	41½
Diameter of cutters.......... "	3	3	4	4	4	5	5	6	6	6	9	9
Shipping weight ....Lbs.	200	300	550	650	1350	1350	1800	2400	2700	3500	6300	8850

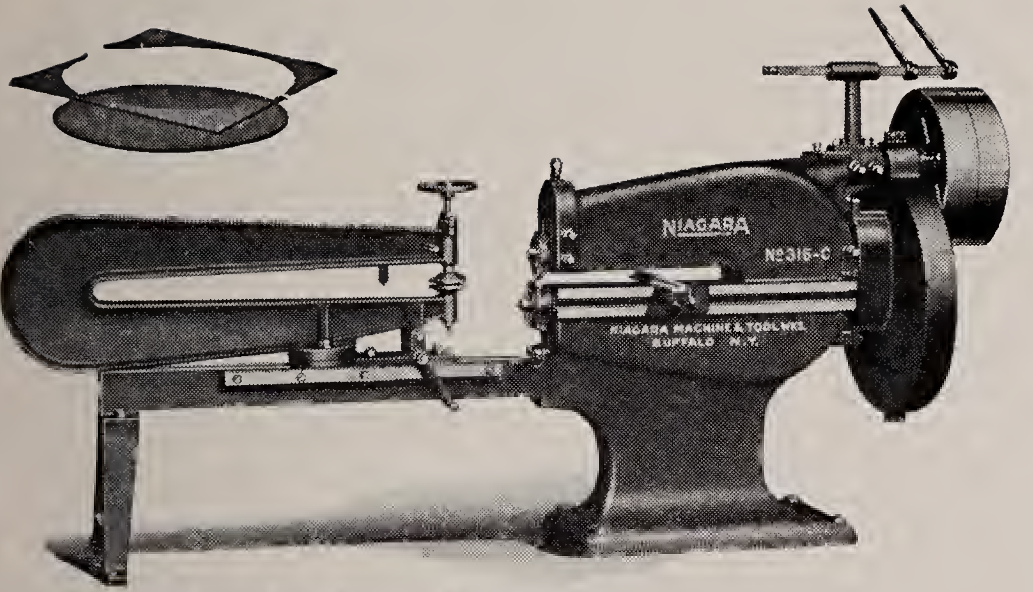
*Can cut 8 inch diameter on lighter material.

**Can cut 14 inch diameter on lighter material.

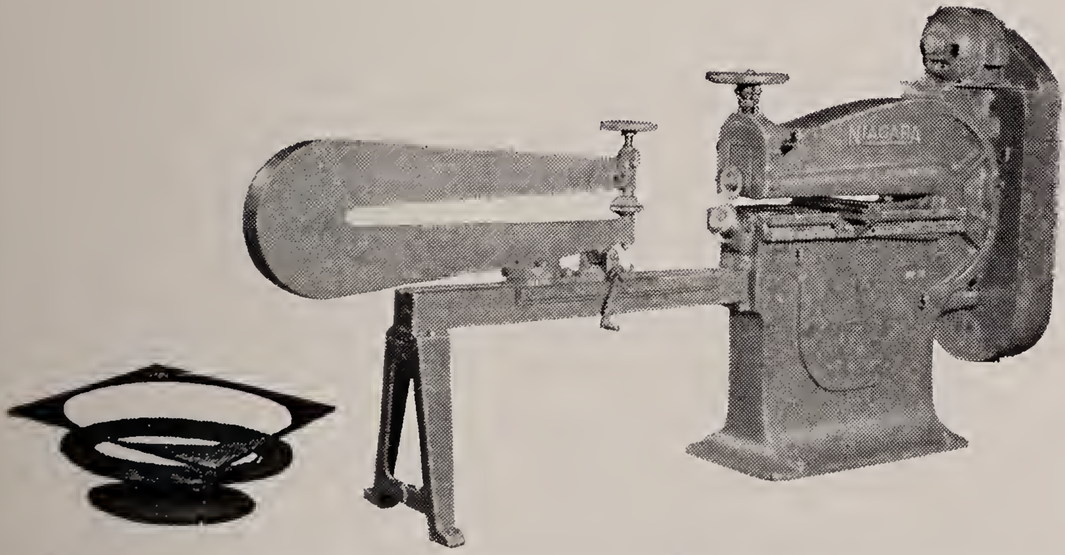
NIAGARA RING AND CIRCLE SHEARS

Number	11A	13A	13B	15A	16A	17	19	310	510
Capacity, mild steel..........Gage	20	20	20	16	14	10	3/16	¼	⅜
Will circle from a square blank..Inches	3½-22	3½-44	3½-48	5-48	6-60	10-60	10-60	14-60	18-80
Throat—cutters to frame.......... "	9¼	9¼	18¼	18½	18	24½	36½	50	50
Slitting gage range—min.—max...Inches	1¼-8¾	1¼-8¾	1¼-17¾	2-17½	2-16½	2-23½	3-34½	3-47½	3-47½
Throat of circle arm.......... "	16	34½	34½	34½	42½	42½	42½	42½	56
Diameter of cutters.......... "	1⅝	1⅝	1⅝	2	3	4¼	5	7	8½
Shipping weight ....Lbs.	250	375	500	1250	1800	3000	3900	9700	13,000

Complete specifications shown in Bulletin 70.



NIAGARA CIRCLE SHEARS



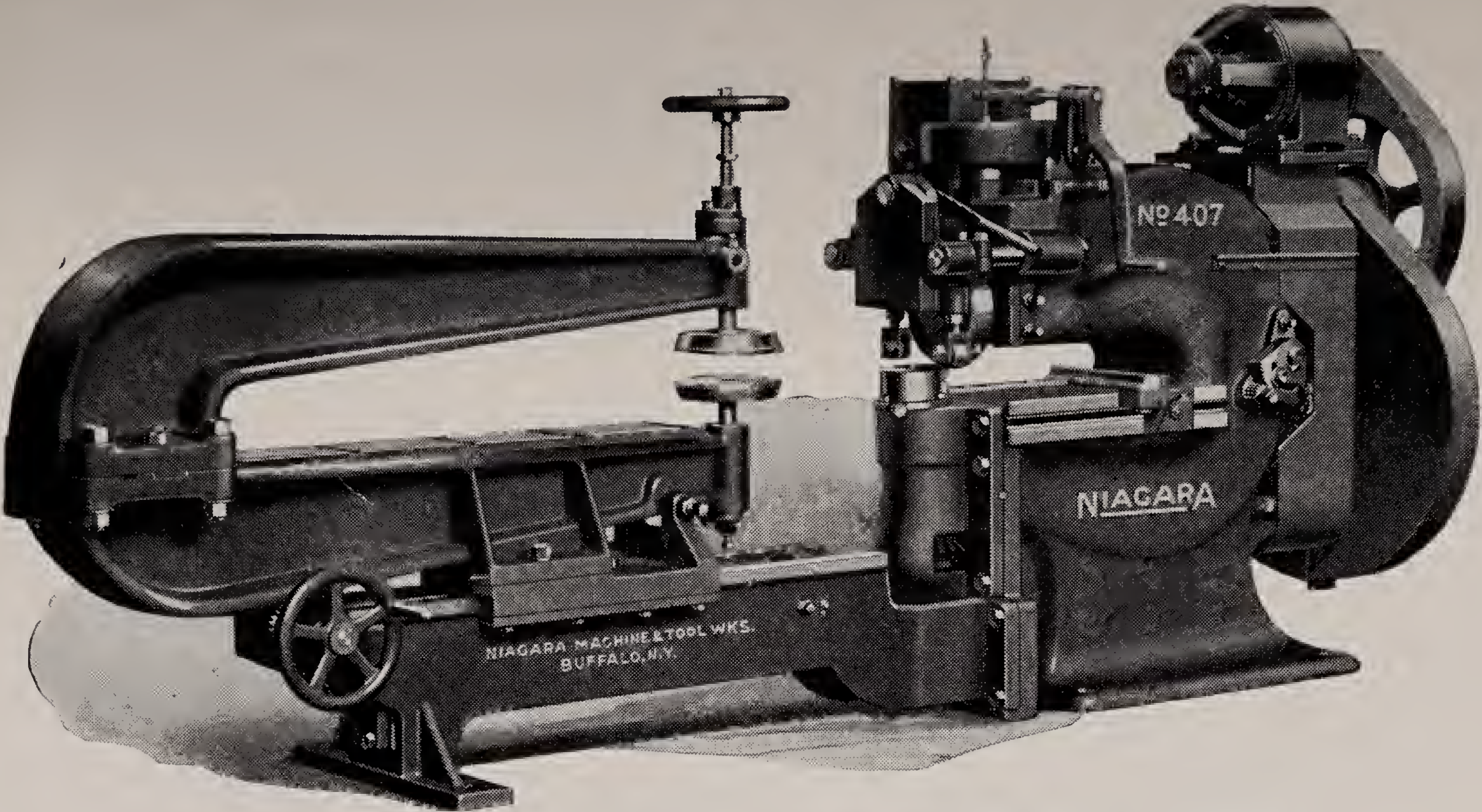
NIAGARA RING AND CIRCLE SHEARS

Niagara Circle and Ring Shears have many uses in sheet metal working—often saving the cost of expensive dies on such operations as tank heads, and other varied products. Also available as slitting shears. See Bulletin 70.

NIAGARA CIRCLE SHEARS AND FLANGERS

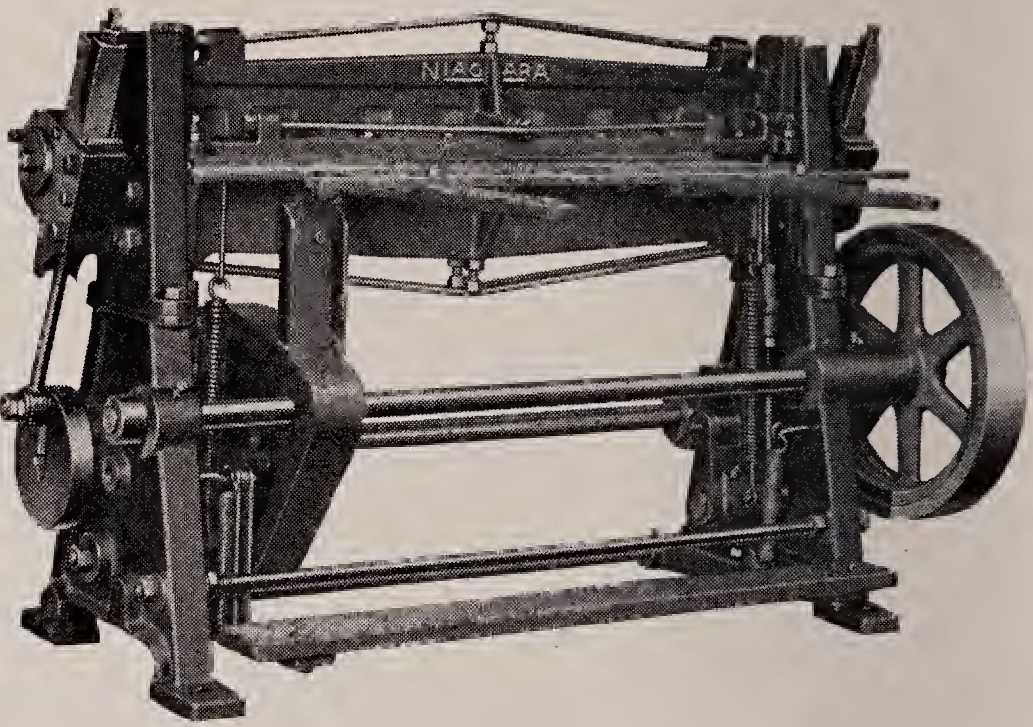
Number	05	208	208	208	316	407		616	
	For Bench	One Piece Circle Arm	Special Circle Arm and Long Bed	Standard Bed Extended Pin Pivot	One Piece Circle Arm	Split Circle Arm		Split Circle Arm	
						With Circle Arm	With Pivot Pin	With Circle Arm	With Pivot Pin
Capacity, mild steel, shearing............Gage	18	8	8	8	3/16"	¼"	¼"		
Will flange in thickness—maximum..Gage	18	10	10	10	10	¼"		⅜"	
Will circle from a square blank........Inches	5-48	8-53	8-73	8-79	8-60	17-80	36-120		
Maximum circle can be cut from octagonal blank .... "	48	70	90	180	80	80	210		
Slitting gage range—min.—max....... "	1-12½	1-15	1-15	1-15	1-36	1-23			
Will flange in diameter (Inside of flanges)—min.—max. ....Inches	10-48	14-73	14-93	14-180	14-84	25-80	36-210	26-105	42-226
Will turn flange, max. height, at rated capacity for flanging.............. "	1	1½	1½	1½	1½	2¼		3	
Circumferential speed of flanging rolls ....Ft. P. M.	52	51	51	51	45	67		60	
Throat—cutters to frame ....Inches	13	16½	16½	16½	37	25			
Throat of circle arm.............. "	36	38½	52		43½	56		56	
Diameter of cutters.............. "	4	6	6	6	6	9			
Shipping weight ....Lbs.	750	2600	2900	3000	4000	8500		13,500	

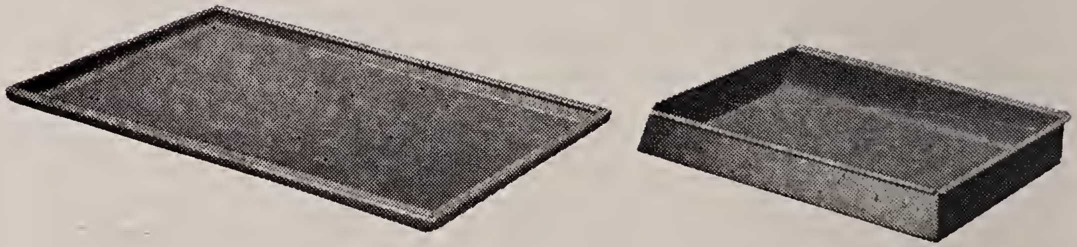
Complete specifications shown in Bulletin 70.



NIAGARA CIRCLE SHEARS AND FLANGERS

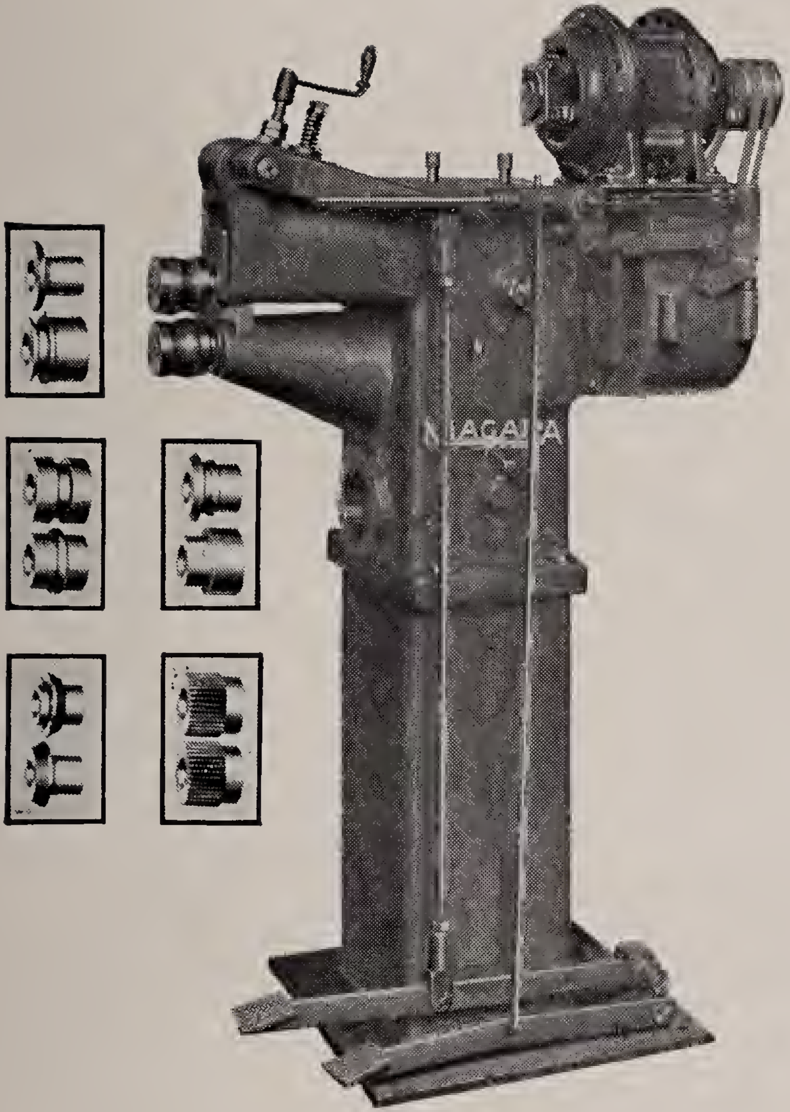
For turning smooth flanges on flat circular blanks. They also cut circles and slit sheets. Widely used for manufacture of tanks, drums, etc. See Bulletin 70.





NIAGARA POWER FOLDERS AND BRAKES

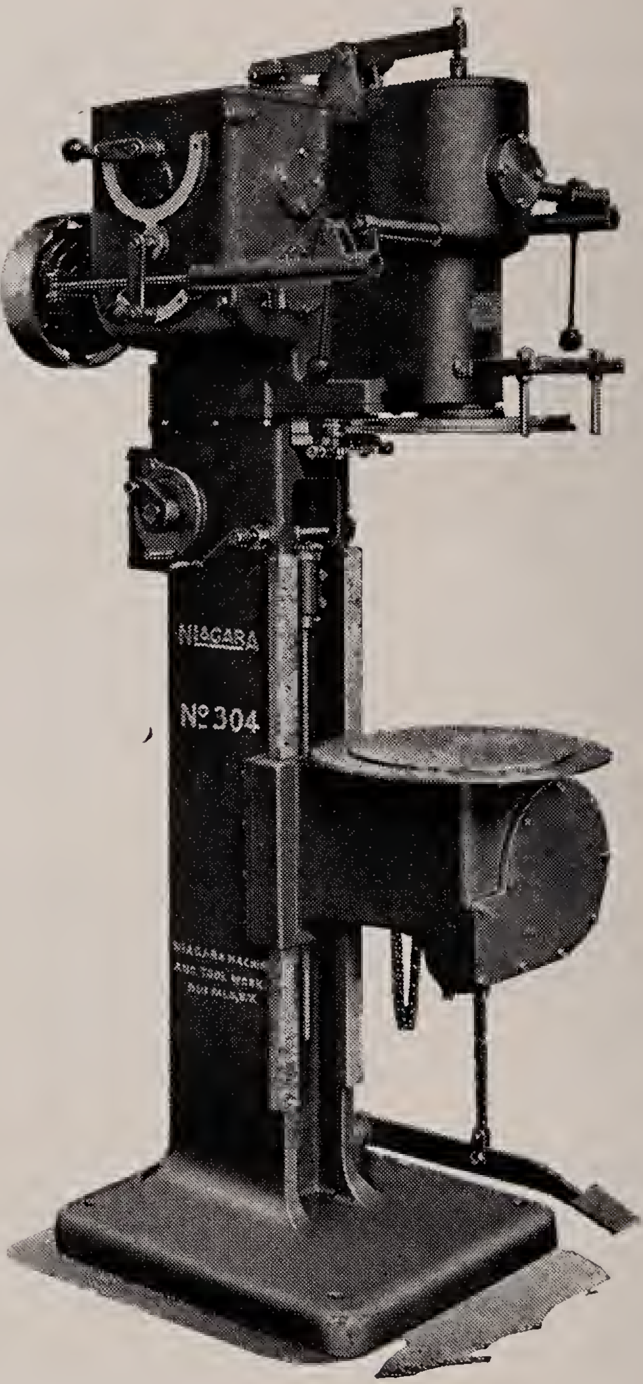
A real labor saving production machine, requiring only one operator. Producing narrow, wide, or successive parallel folds, these machines are used to advantage by manufacturers of metal cabinets, furnace jackets, refrigerator cases, radiator covers, steel shelving and similar products. Three sizes — 36″, 48″ and 72″ working lengths — 20 and 22 gage.



NIAGARA COMBINATION MACHINES

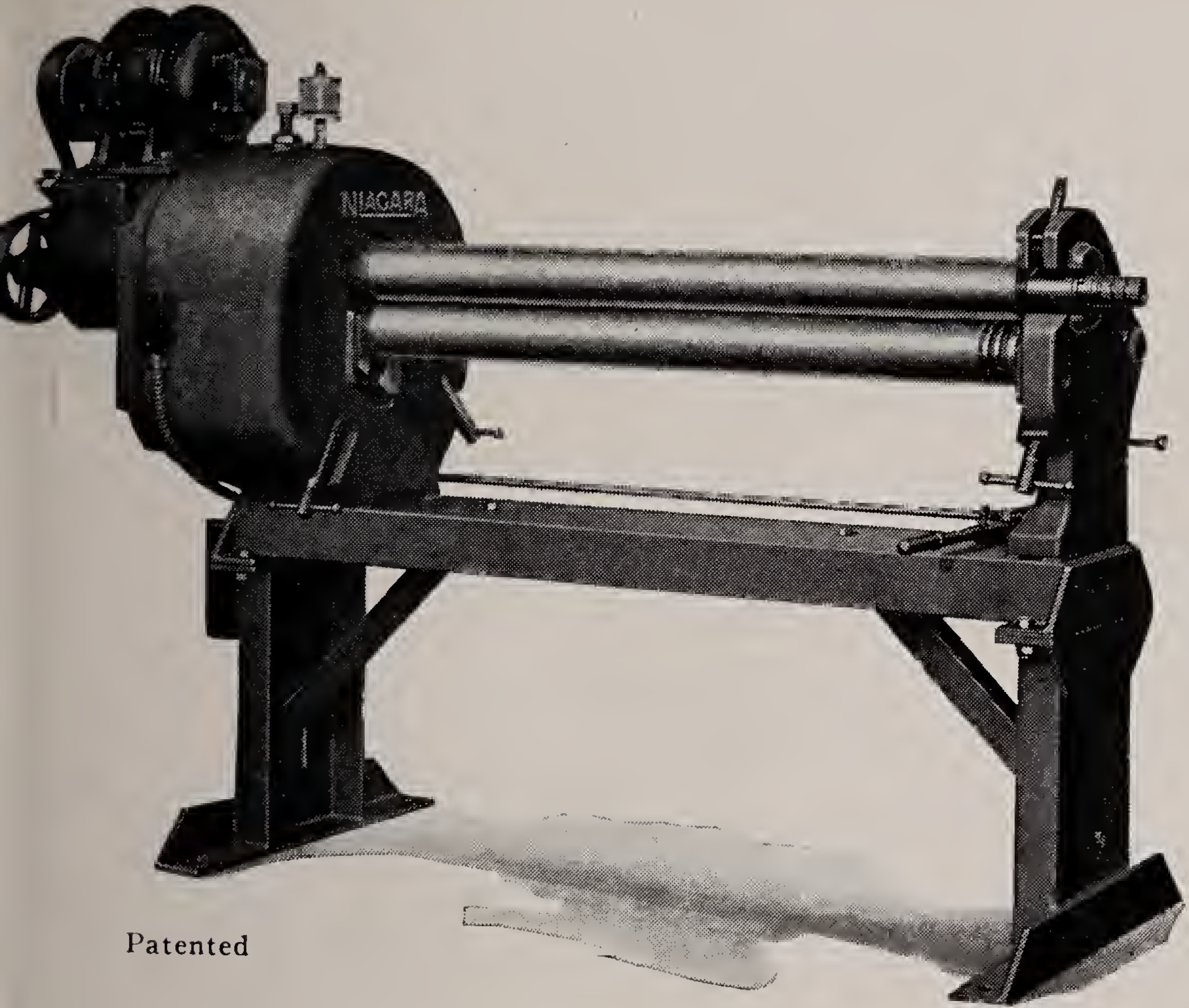
For Slitting, Single and O. G. Beading, Turning, Wiring, Crimping

Interchangeable rolls perform several different operations at minimum cost. Puts the sheet metal shop on a highly productive and profitable basis. Machines built in various sizes and capacities for belt or motor drive. Complete line shown in Bulletin 75.



NIAGARA SEAMERS

For seaming heads on drums, cans and containers. Built in vertical and horizontal types for handling light and heavy gage materials. Complete line shown in Bulletin 76.



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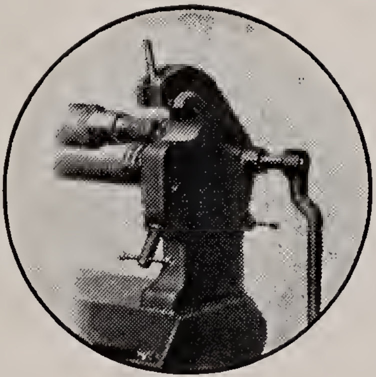
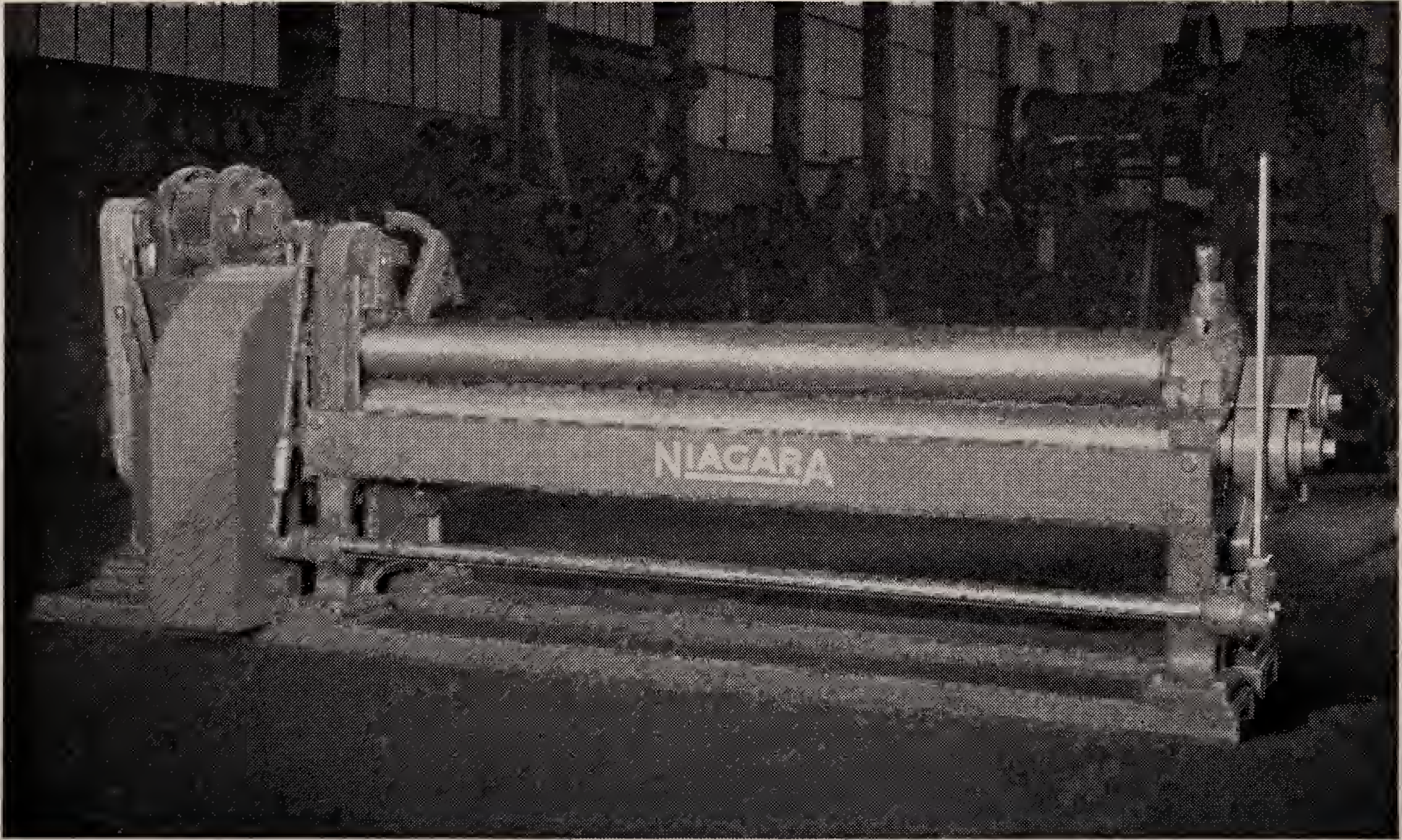


☞ Showing trigger release with roll.

NIAGARA SLIP ROLL FORMERS

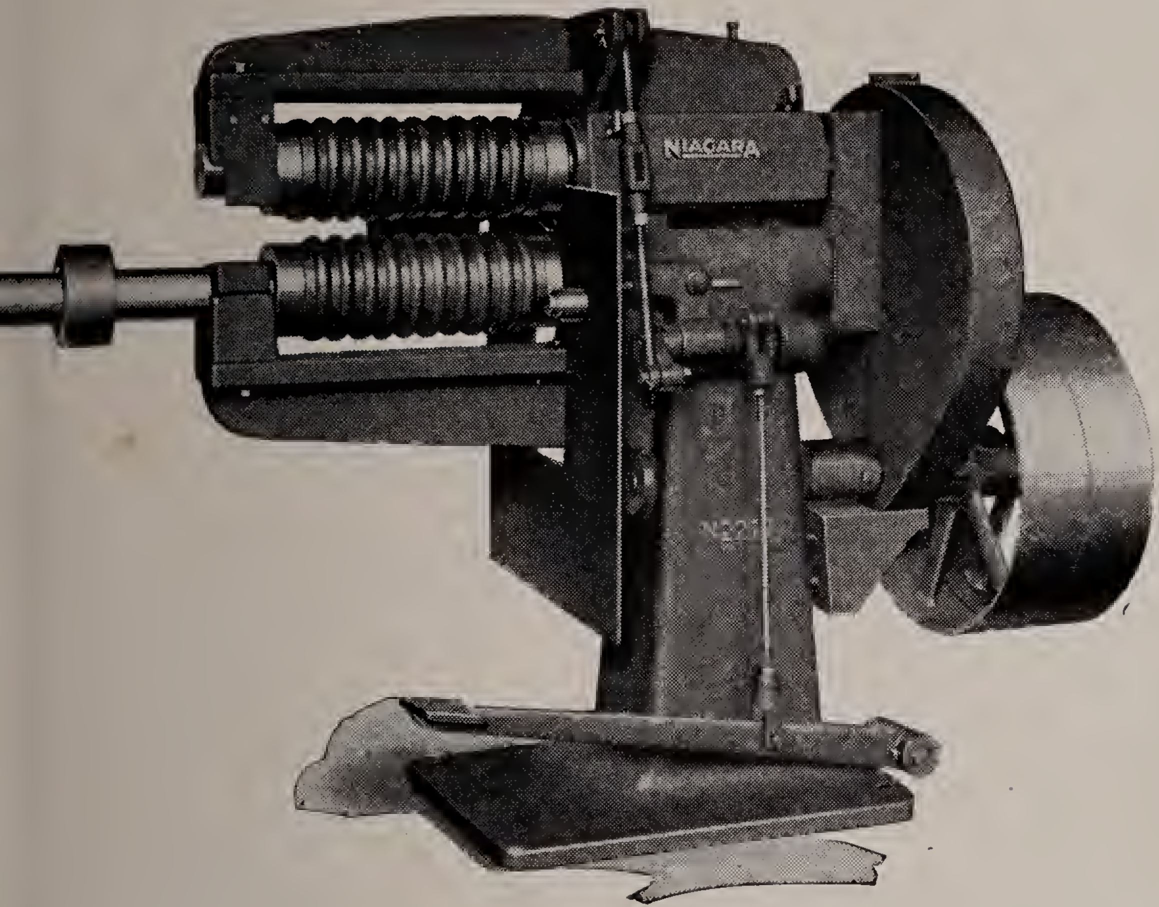
For curving flat sheets into cylindrical forms such as pipe, stacks, drums, container, side pail and tub bodies. All sizes both hand and power drive. See Bulletin 77.



Patented

HEAVY FORMING ROLLS

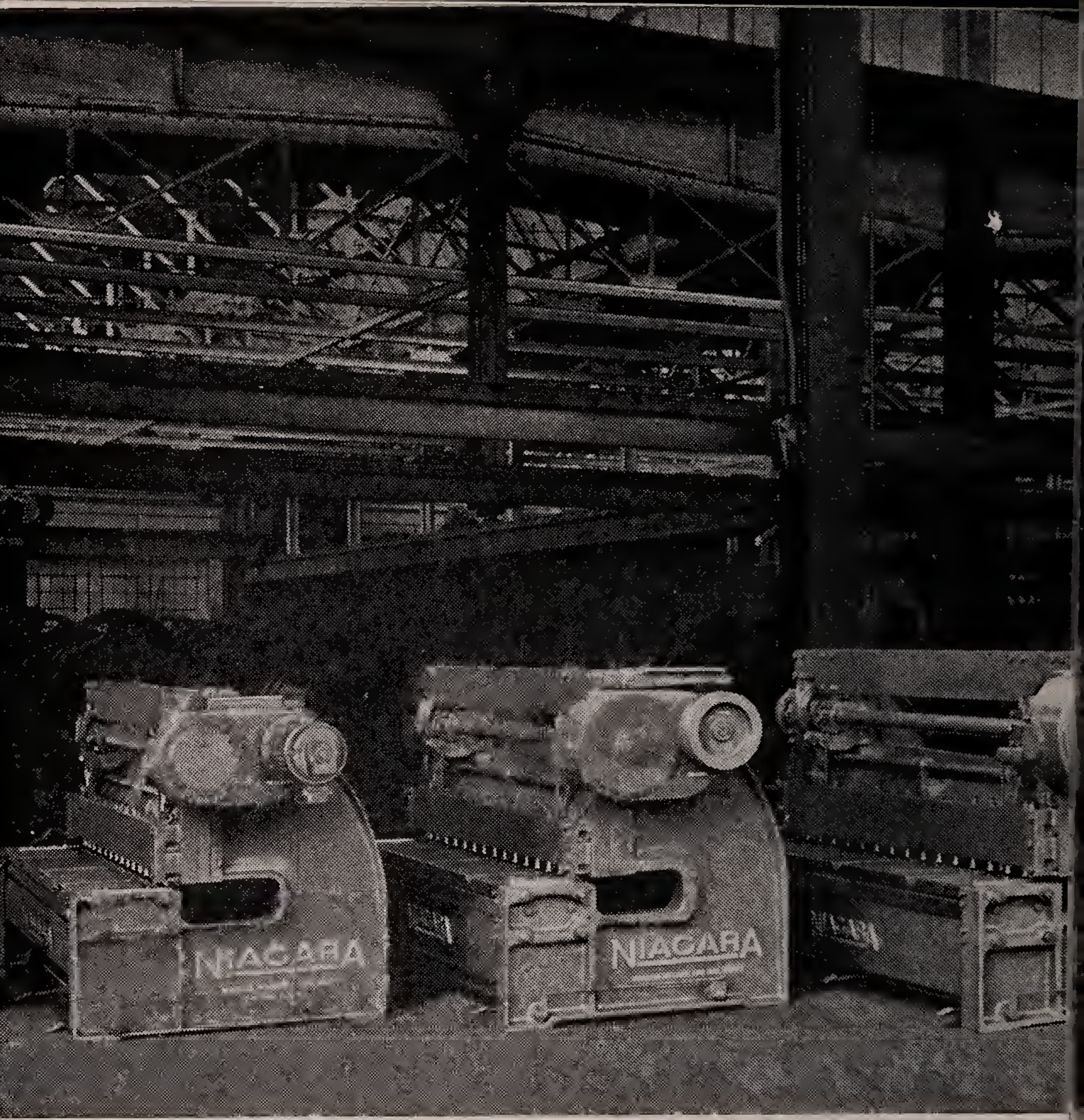
For making boilers, oil and gasoline storage tanks, car and truck tanks, drums, stacks, etc. 5″ to 7½″ rolls—3′ to 10′ working lengths. See Bulletin 77.



NIAGARA BEADING MACHINES

The complete line includes sizes and capacities for every need, including beading and corrugating operations on drums, washing machine tubs, etc.

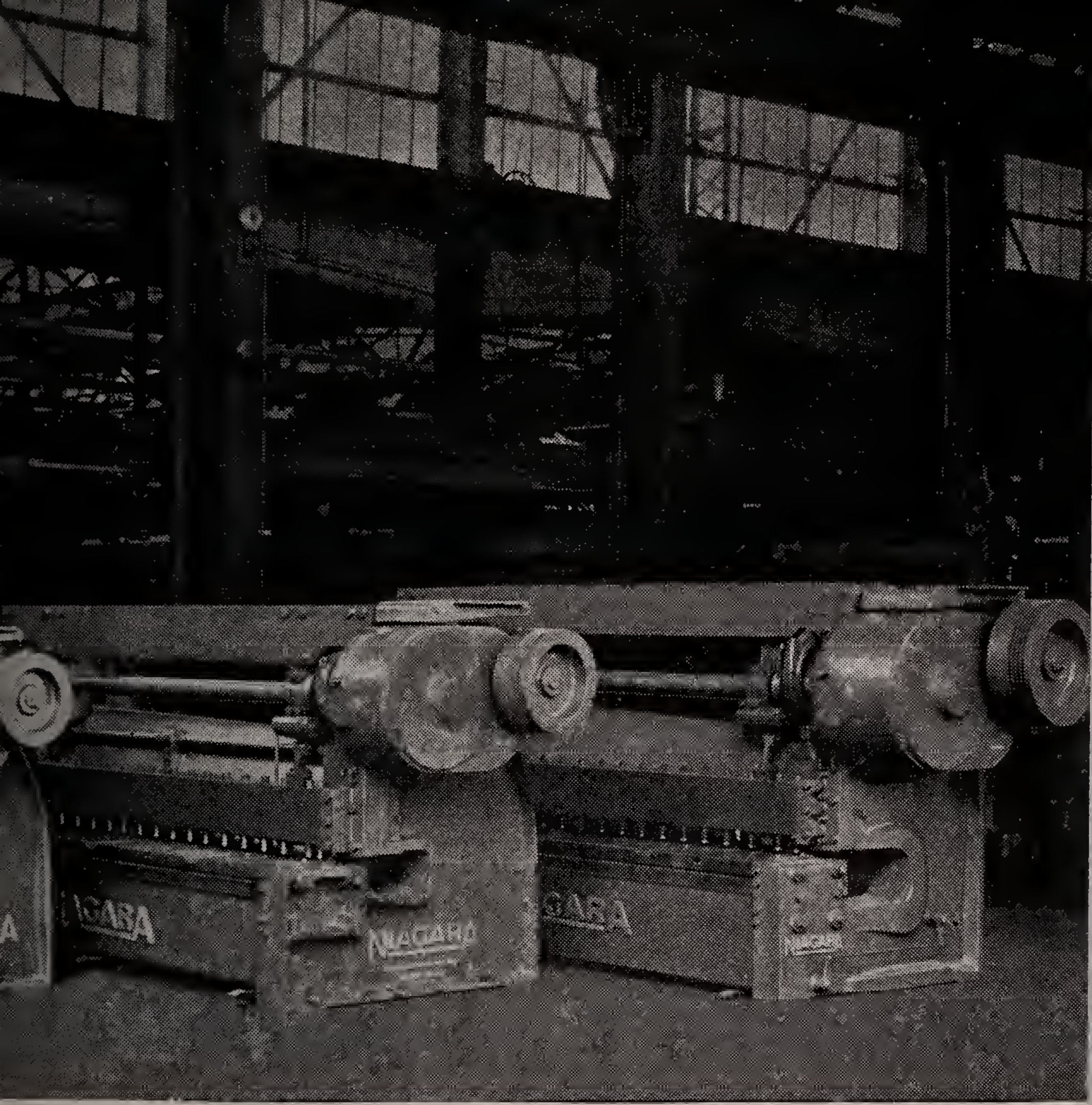
Built strong and rigid to stand up in continuous production service. Arranged for convenient fast operation. Ask for Bulletin 75.



NIAGARA POWER

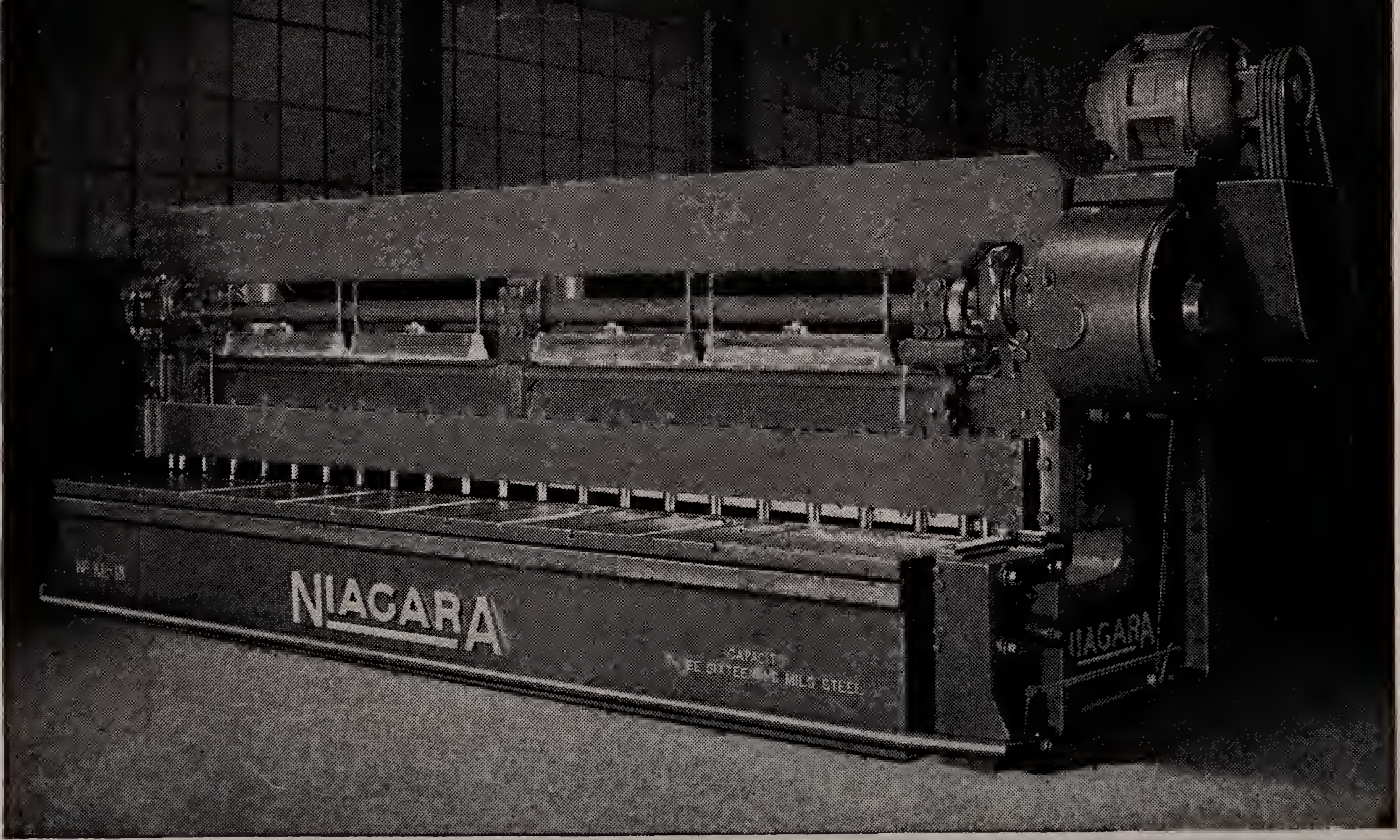
This photograph shows several sizes of Niagara High Production Power Squaring Shears for capacities from 10 gage to 1/2 inch . . . built in cutting lengths from 6 to 18 feet. More working strokes per hour are the result of convenient arrangement for handling sheets . . . accessible control . . . instant acting 14-point engagement sleeve clutch with built-in single stroke mechanism.

Also included in their advanced engineering features are



SQUARING SHEARS

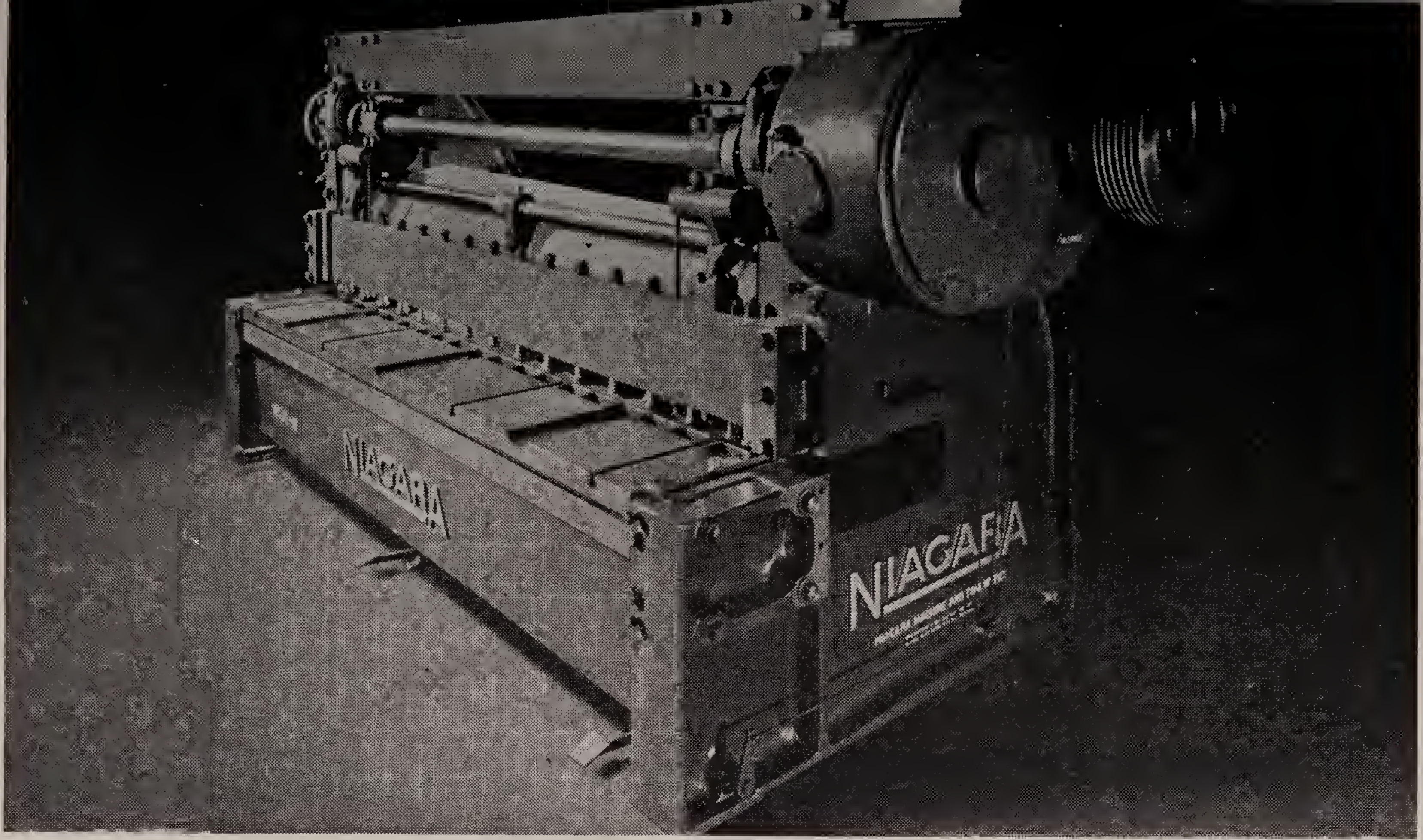
smooth acting, toggle operated hold-down with individual pressure feet for varying lengths of sheets . . . triangular section crosshead assuring rigid knife support for accurate cutting . . . clutch and gears mounted on antifriction bearings and enclosed in oil-tight case for long life and low maintenance cost . . . new self-measuring ball-bearing parallel back gage providing quick operation and micrometer accuracy.



Patented

NIAGARA POWER SQUARING SHEARS—SERIES "KL"

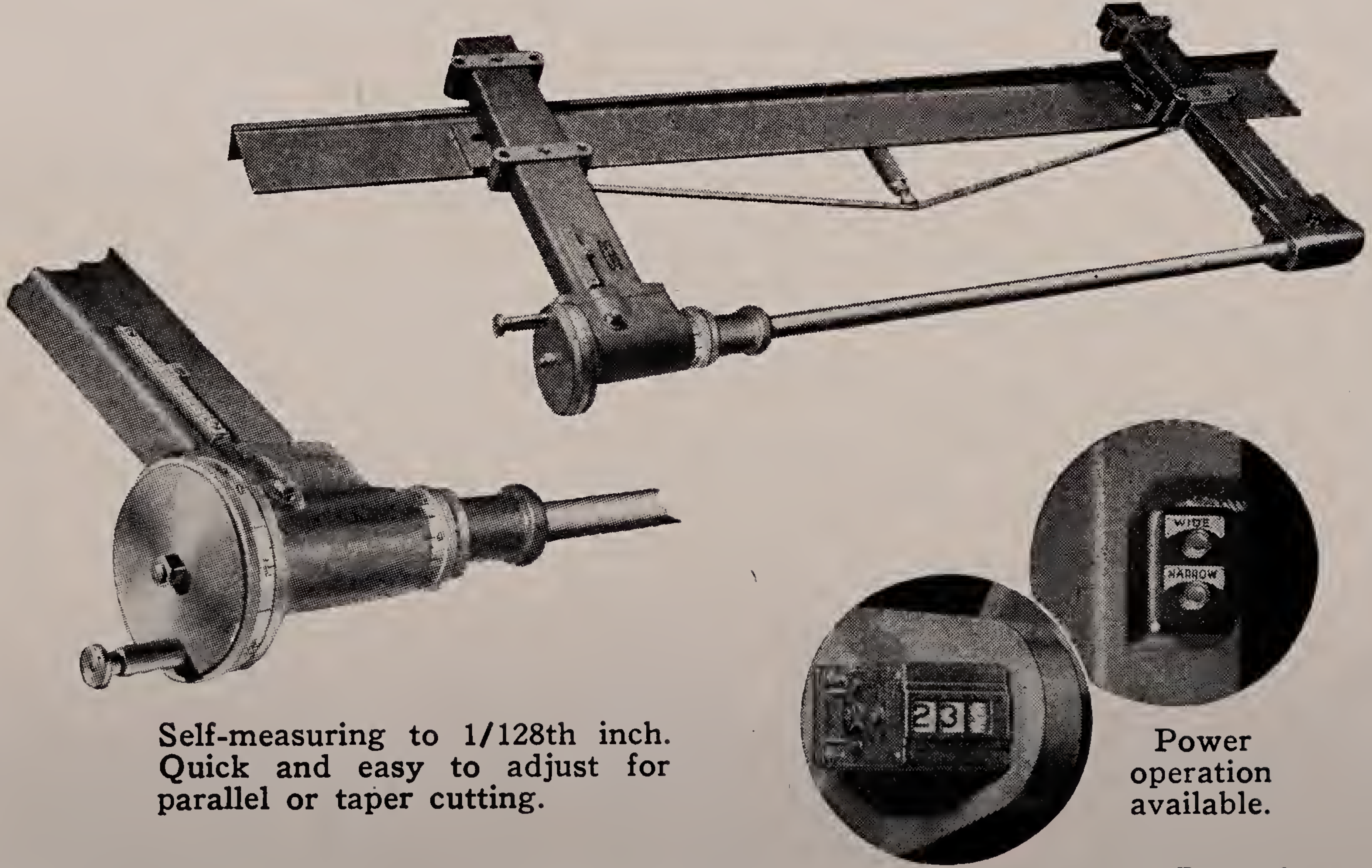
Capacities—3/8" in 8, 10 and 12 foot lengths; 1/4" in 14 foot lengths; 3/16" in 16 and 18 foot lengths. 18" Gap. Enclosed Anti-Friction Drive, 14 Point Sleeve Clutch. Ask for Bulletin 72.



Patented

NIAGARA POWER SQUARING SHEARS—SERIES "JL"

Capacities—¼" in 8, 10 and 12 foot lengths; $\frac{3}{16}$" in 13 and 14 foot lengths; 10 gage in 16 foot length. 18" Gap. Enclosed Anti-Friction Drive, 14 Point Sleeve Clutch. Other sizes shown in Bulletin 72.

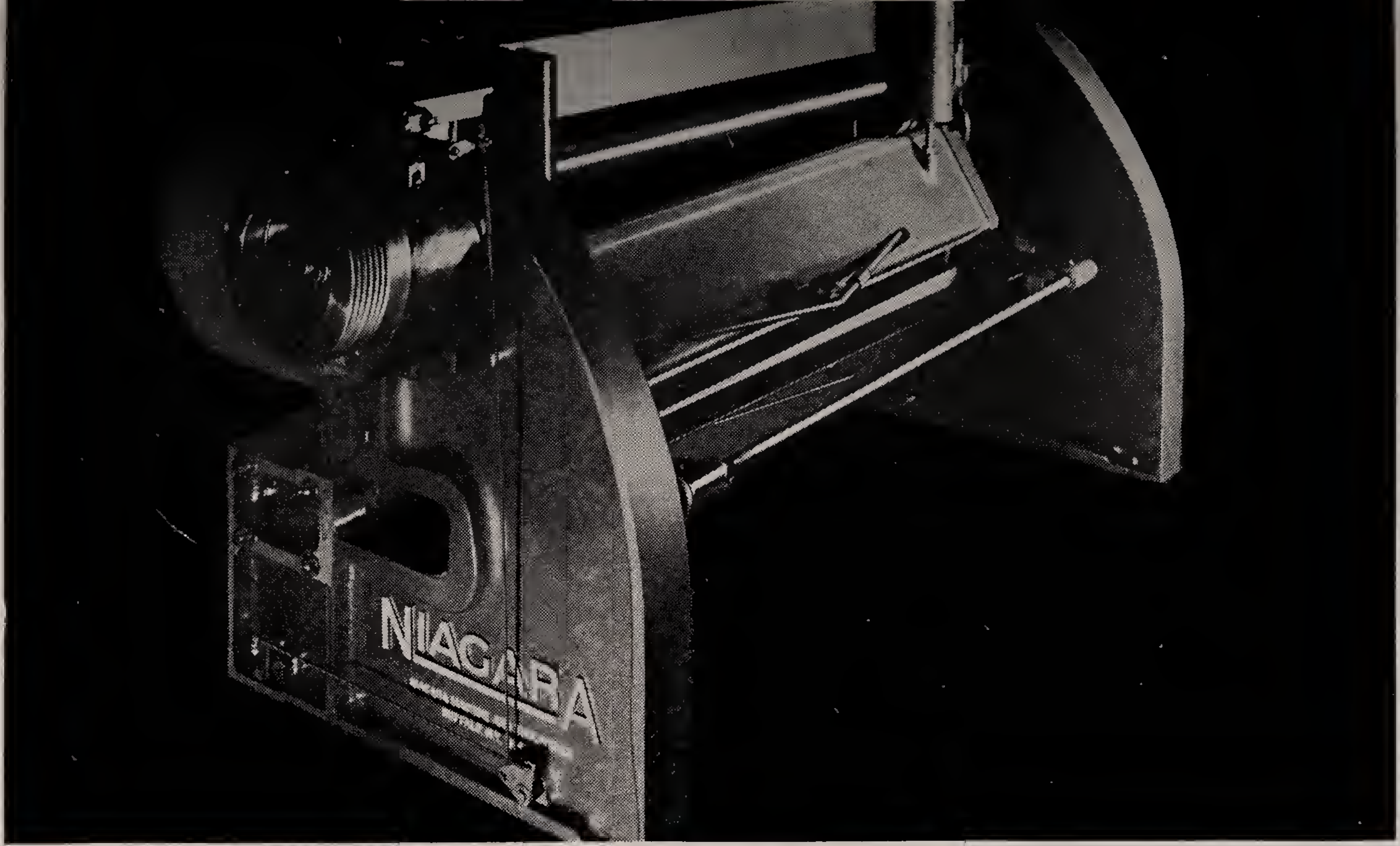


Self-measuring to 1/128th inch. Quick and easy to adjust for parallel or taper cutting.

Power operation available.

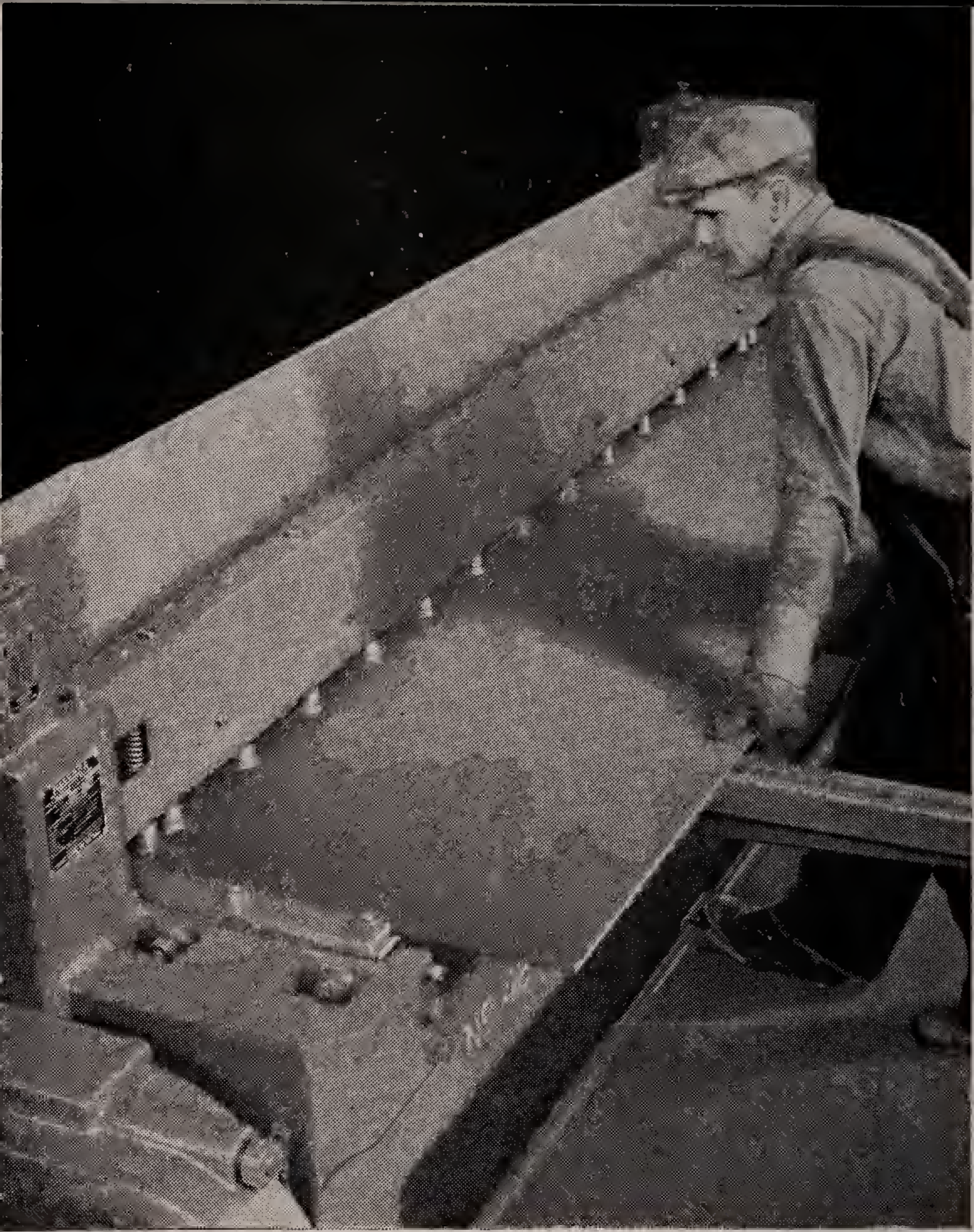
Patented

NIAGARA BALL BEARING PARALLEL BACK GAGE



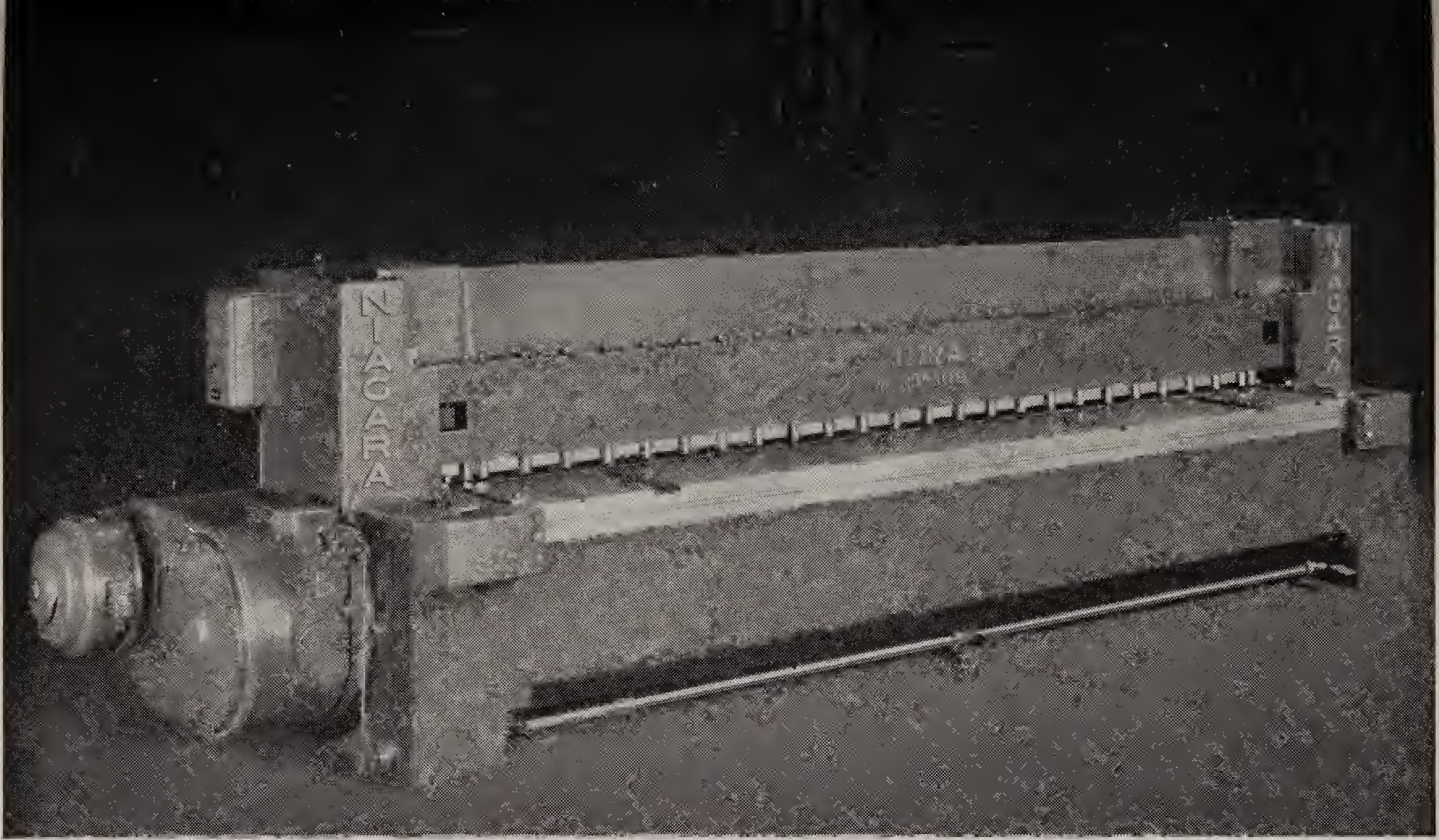
ACCESSIBLE AND SAFE AT REAR

Niagara compact, clean design affords complete accessibility at rear, both for convenient setting of back gage and quick, safe handling of the off-cut material. There are no rotating parts at rear to endanger operators.



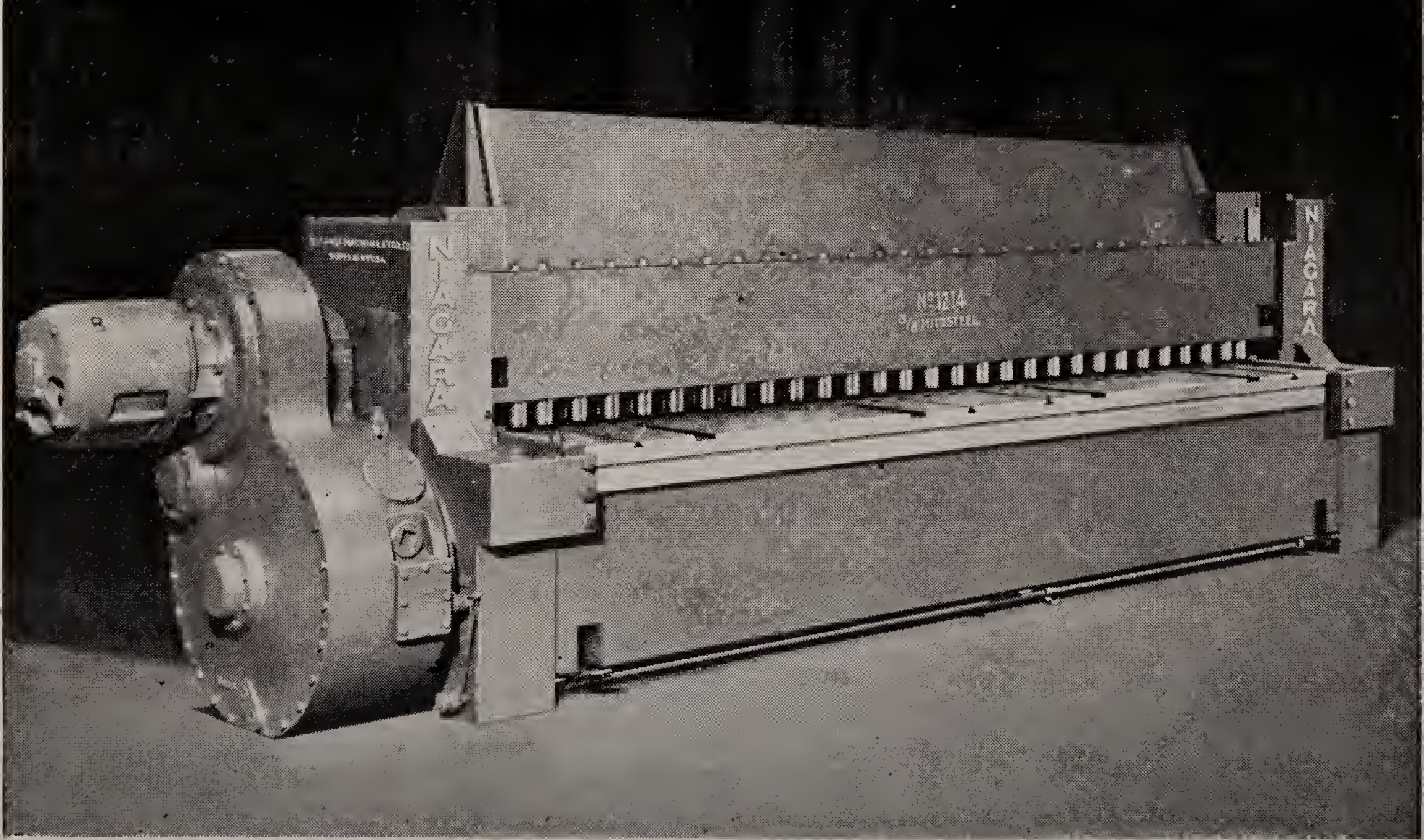
NIAGARA UNDERDRIVE SHEARS

The many new and exclusive features embodied in the design of Niagara Underdrive Shears enable them to deliver an entirely new standard of performance. Accuracy heretofore unattainable. Full visibility of cutting line and convenient operation result in more working strokes per hour.



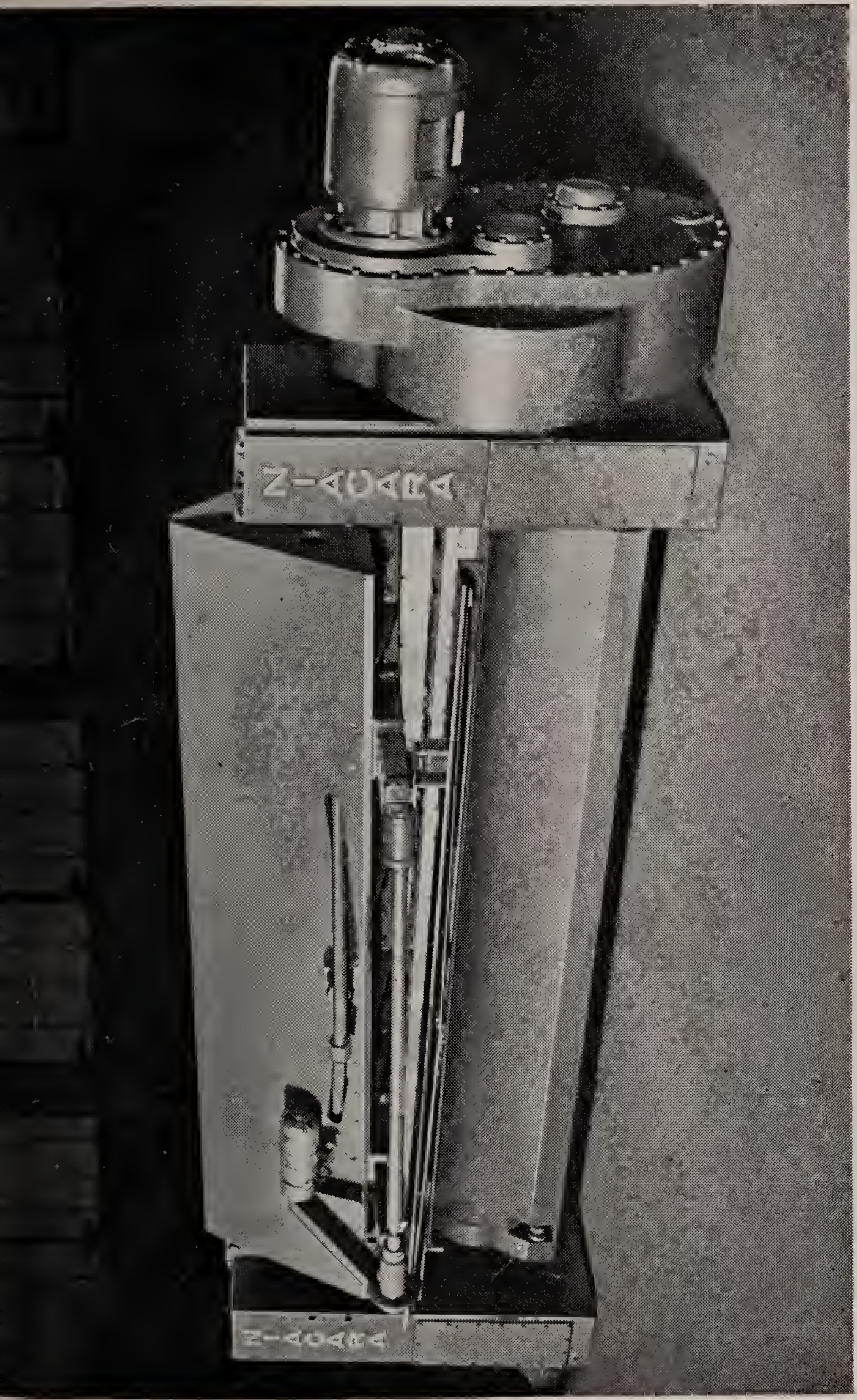
NIAGARA UNDERDRIVE SHEARS

New and exclusive design establishes entirely new standards of performance, in accuracy, convenience of operation and output per hour.

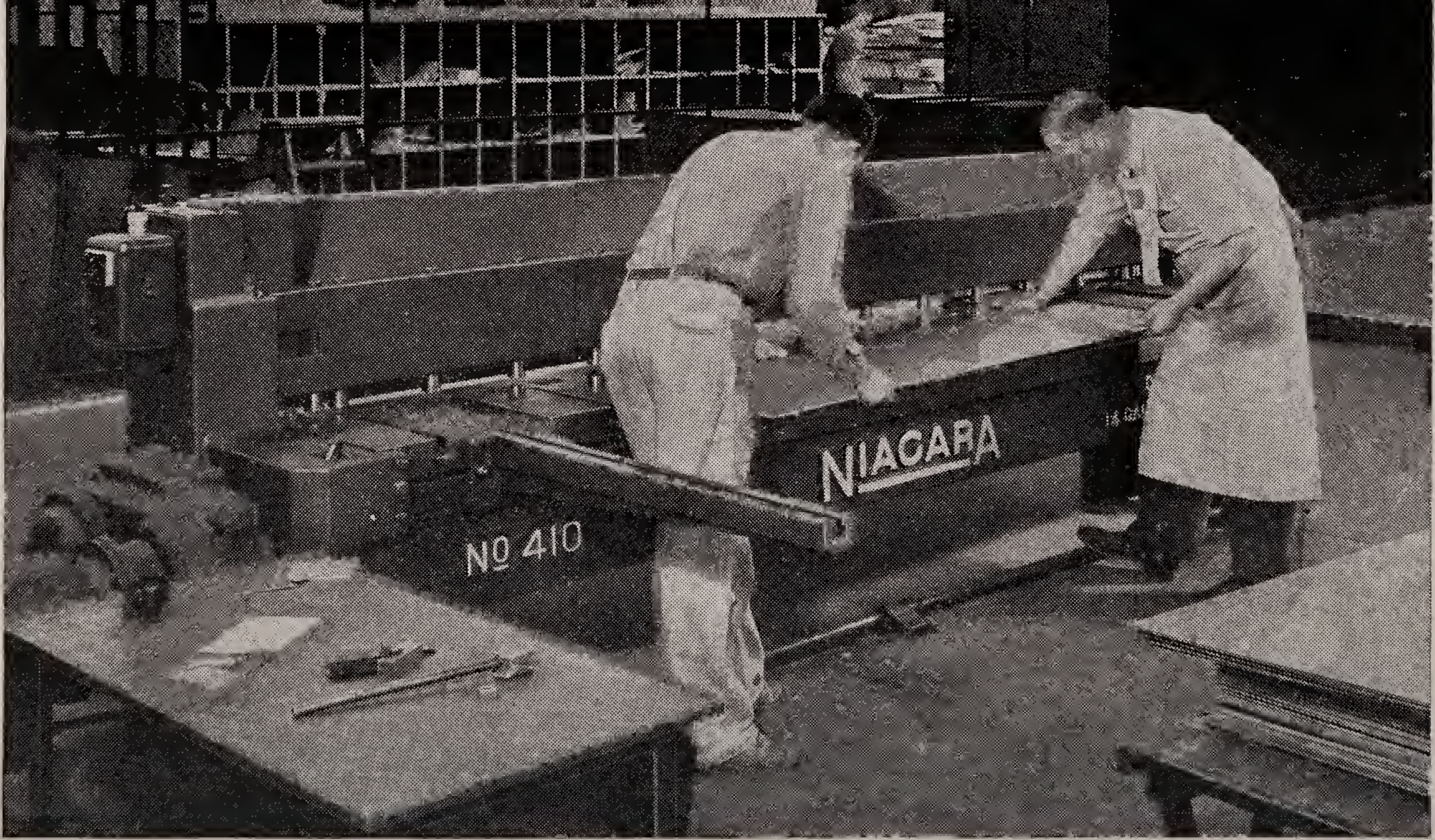


NO. 1214 UNDERDRIVE POWER SQUARING SHEARS

Sizes from 6 to 16 foot cutting lengths and capacities up to 1 inch.



Rear view of Niagara No. 1212 Underdrive Shear, showing accessibility and freedom from rotating shafts. Special equipment includes power operated back gage, conveniently operated from front of shear.



Niagara Power Squaring Shears put accurate cutting on a production basis in metal working plants everywhere.

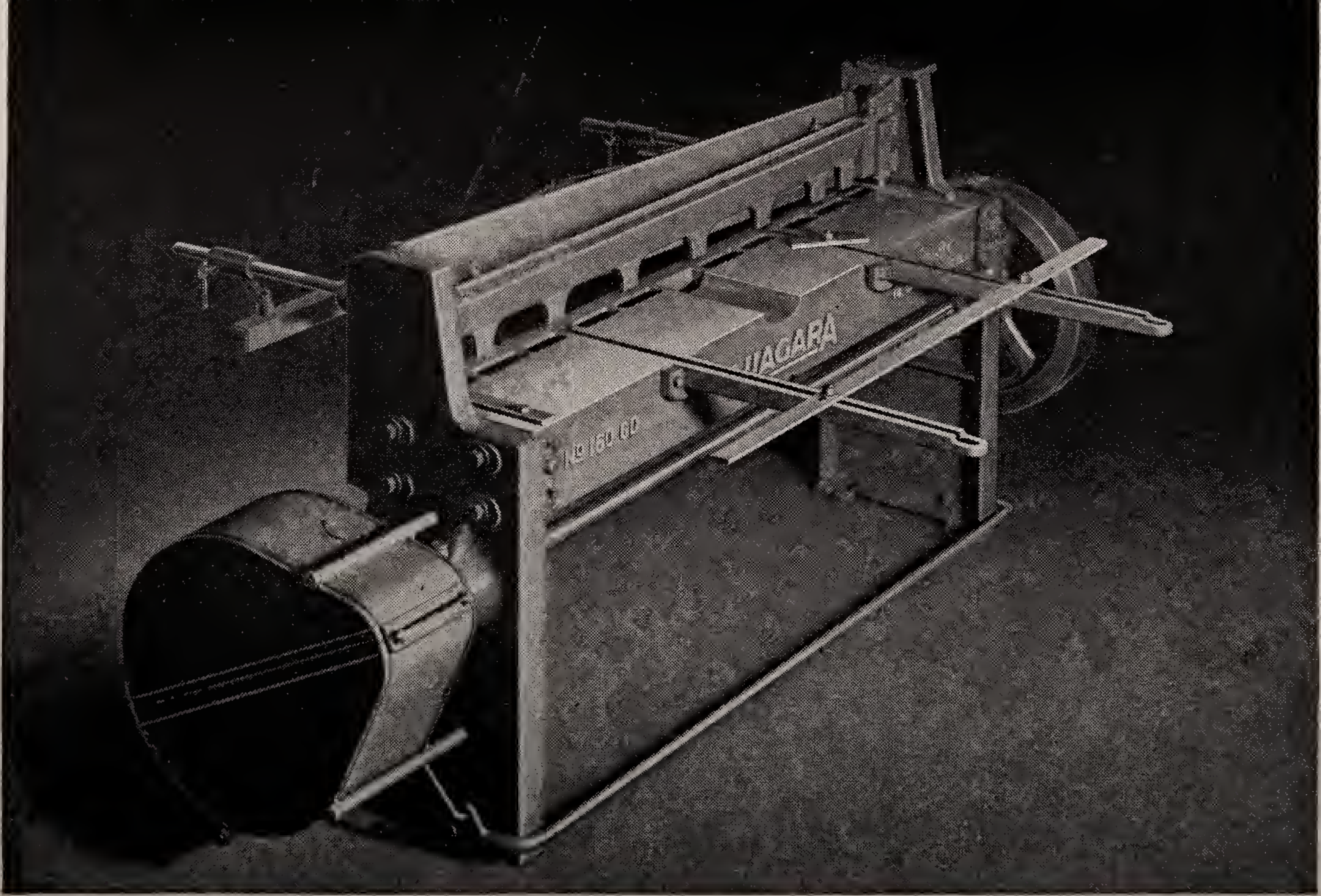
CAPACITY CHART FOR NIAGARA POWER SQUARING SHEARS

Capacities	Nominal Cutting Length	Shear No.	Gap
22 gage	30″	02½*	
“	42″	03½*	
20 gage	36″	03*	
18 gage	48″	148*	
“	60″	160*	
“	72″	172*	
“	96″	28	
“	120″	210	
“	144″	312	
16 gage	36″	136*	
“	48″	24	
“	72″	76	
“	96″	38	
“	120″	310	
“	144″	412	
14 gage	36″	23	
“	48″	34	
“	72″	36	
“	96″	48	
“	120″	410	
10 gage	96″	68	
“	96″	HL-8	18″
“	120″	610	
“	120″	HL-10	18″
“	144″	612-A	
“	144″	HL-10	18″
“	156″	IL-13	18″
“	168″	IL-14	18″
“	192″	JL-16	18″
3/16″	48″	64	
“	72″	66	
“	72″	H-6	18″
“	96″	78	
“	96″	IL-8	18″
“	120″	610	
“	120″	IL-10	18″
“	144″	712-A	
“	144″	IL-12	18″
“	156″	JL-13	18″
“	168″	JL-14	18″
“	192″	KL-16	18″
“	216″	KL-18	18″
1/4″	48″	74	
“	48″	I-4	18″
“	72″	76	
“	72″	I-6	18″
“	96″	88	
“	96″	JL-8	18″
“	120″	810	
“	120″	JL-10	18″
“	144″	812	
“	144″	JL-12	18″
“	168″	914	
“	168″	KL-14	18″
“	216″	L-18	18″
“	240″	L-20	18″
3/8″	72″	86	
“	72″	J-6	18″
“	96″	98	
“	96″	KL-8	18″
“	120″	910	
“	120″	KL-10	18″
“	144″	912	
“	144″	KL-12	18″
“	168″	1014	
“	168″	L-14	18″
“	192″	1016	
“	192″	L-16	18″
1/2″	72″	96	
“	72″	K-6	18″
“	96″	108	
“	96″	L-8	18″
“	120″	1010	
“	126″	L-10½	18″
“	144″	1012	
“	144″	L-12	18″
5/8″	72″	106	
“	168″	1214	
“	192″	1216	
3/4″	96″	128	
“	120″	1210	
“	144″	1212	
1″	12″	126	

*Plain, not geared.

Other lengths, capacities and gap specifications not shown on chart will be quoted on application.

— Bulletins Available on All Sizes —



Patented

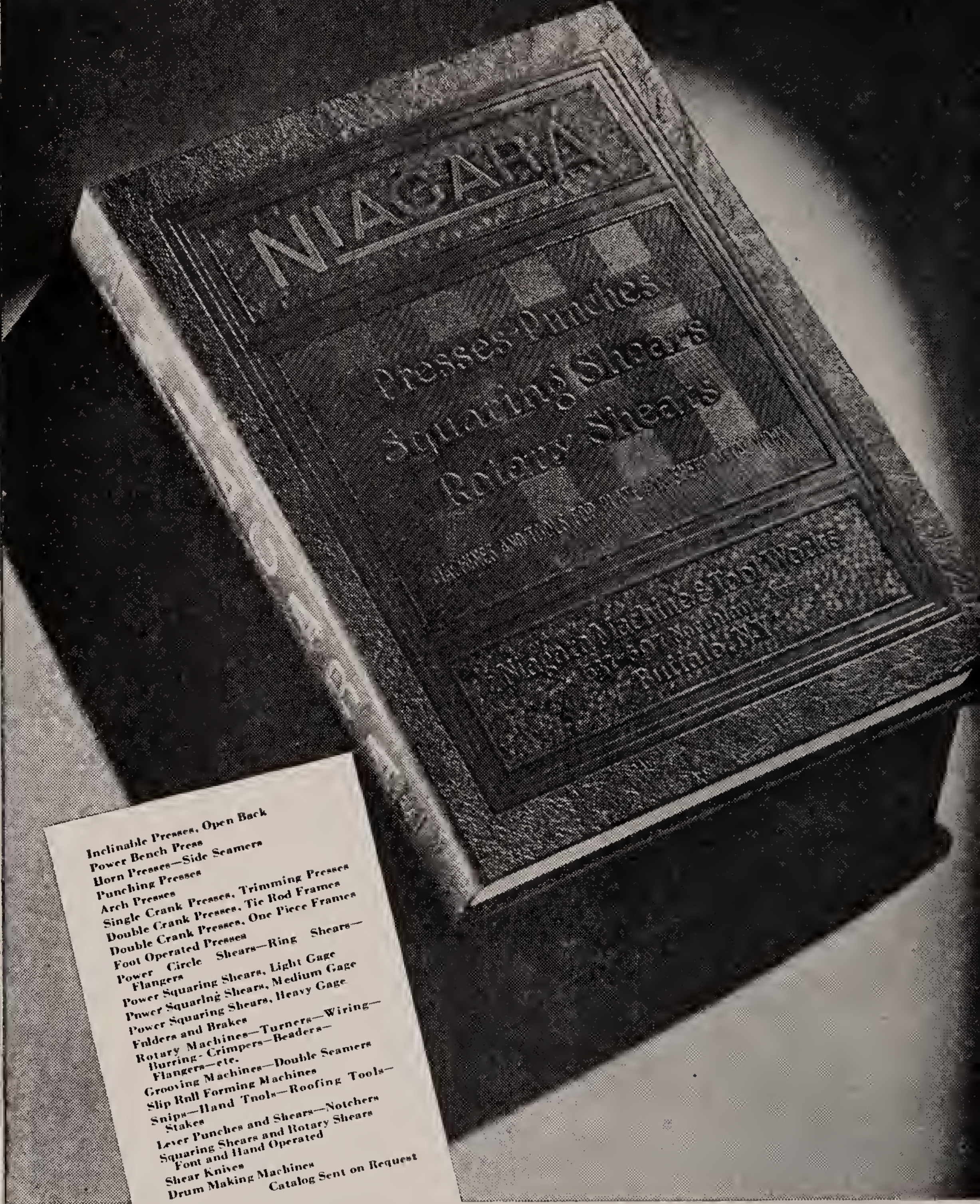
NIAGARA POWER SQUARING SHEARS—SERIES 100, GEARED

Capacities up to 14 Gage. Cutting Lengths up to 72 Inches.
Ask for Bulletin 71.

IMPORTANT USES OF NIAGARA POWER SQUARING SHEARS

Shearing to size is one of the basic operations in the production of stamped and formed parts made of ferrous or non-ferrous metal sheets, fibre, asbestos, wallboard and other modern materials. Niagara Power Squaring Shears cut sheets into strips, trim edges and cut square, rectangular, tapered or straight side blanks. The edges which they cut often serve as accurate locating points responsible for accuracy of finished pieces whether formed in a die, folder, slip roll former or other machine performing subsequent operations.

Manufacturers are taking advantage of Niagara shear accuracy as an important economy in both manufacturing and assembling.



Inclinable Presses, Open Back
Power Bench Press
Horn Presses—Side Seamers
Punching Presses
Arch Presses
Single Crank Presses, Trimming Presses
Double Crank Presses, Tie Rod Frames
Double Crank Presses, One Piece Frames
Foot Operated Presses
Power Circle Shears—Ring Shears—
Flangers
Power Squaring Shears, Light Gage
Pnwer Squaring Shears, Medium Gage
Power Squaring Shears, Heavy Gage
Fnlders and Brakes
Rotary Machines—Turners—Wiring—
Burring- Crimpers—Beaders—
Flangers—etc.
Grooving Machines—Double Seamers
Slip Rnll Forming Machines
Snips—Hand Tnols—Roofing Tools—
Stakes
Lever Punches and Shears—Notchers
Squaring Shears and Rotary Shears
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Shear Knives
Drum Making Machines
Catalog Sent on Request

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NIAGARA

PRESSES, PUNCHES,
SQUARING SHEARS
ROTARY SHEARS

TINNERS TOOLS AND
MACHINES FOR
PLATE AND SHEET
METAL WORK